Exhibit 30, Part 1 of 2

EPTF Report

15th May 2017

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European Post Trade Forum Report

1. Introduction

In early 2016 the European Commission set up an informal expert group on post-trading, including the areas of collateral markets and derivatives, the European Post Trade Forum (EPTF)[1].

The objective of EPTF in the context the Commission's Capital Markets Union (CMU) project is "to support the work of the Commission to review the developments in post-trading, including collateral management services, in line with the CMU, in order to promote more efficient and resilient market infrastructures in the EU"[2].

In executing its mandate, the EPTF, comprised of representatives of the relevant industry constituencies, analysed the current European Post Trade Landscape in detail with the support of experts that are not members of the EPTF. This analysis that is published as an Annex to this Report, served as a source of evidence for the EPTF to assess the state of removal of the Giovannini Barriers[3] and the identification of new barriers and bottlenecks to efficient and resilient cross-border post-trading in the EU, considering the global nature of capital markets.

The objective of this Report is to list those Giovannini Barriers that have not yet been dismantled as well as new barriers and bottlenecks and to try and establish priorities in addressing these perceived obstacles on the way to a true CMU.

The reader will need to bear in mind that at the time the two Giovannini Reports were written, derivative markets, securities finance activities, collateral management and post-trade reporting were not as developed as they are today. As a result, the focus was put on the standardisation of messages in the cash securities markets, and more precisely on the settlement layer, as the role of CCPs was still in its infancy, not to mention the awareness of their importance. This has changed. The size and complexity of derivative markets, securities finance activities and collateral management can easily be compared with cash securities markets and CCPs have become critical market infrastructures. In addition, new products, and unfortunately their corollaries new barriers, have also appeared since the Giovannini Reports.

All of this also explains why a mere "semantic transposition" of the Giovannini Barriers into the current market environment was not possible: for example, it became obvious that the scope of some (still not dismantled) former Giovannini Barriers had changed or that some of them needed to be redefined or even put together into a new barrier. Hence the decision was taken to adopt a new terminology: the EPTF Barriers (but, in so far as possible and where relevant, a reference to the Giovannini Barriers is provided).

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[1] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3394
[2] European Commission's "Action Plan on Building a Capital Markets Union", 30/09/2015. http://ec.europa.eu/finance/capital-markets-union/docs/building-cmu-action-plan_en.pdf
[3] An expert group, set up by the Commission and chaired by Alberto Giovannini, diagnosed 15 operational, legal and tax barriers to integrated financial markets in Europe in the clearing and settlement space. The Giovannini Group published their analysis and proposals in two reports in 2001 and 2003: http://ec.europa.eu/internal_market/financial-markets/docs/clearing/first_giovannini_report_en.pdf; http://ec.europa.eu/internal_market/financial-markets/docs/clearing/second_giovannini_report_en.pdf

This Report is structured as follows: The Executive Summary in Chapter 2 includes a brief overview of the current state of post trade reform, regulatory initiatives in the post trade space and a high-level assessment of the dismantling of the Giovannini Barriers, and focuses on the EPTF Barriers that are accredited the highest priority for required solution in the context of CMU.

Chapter 3 comprises an abstract of the detailed analysis of the current European post trade landscape.

The subsequent chapters of the Report (Chapters 4 to 7) describe the individual barriers in the operational, structural, legal and tax space, their consequences and impact as well as the proposed solutions. Chapter 8, a "watchlist", deals with issues and bottlenecks that require ongoing monitoring. The final Chapter 9 provides brief explanations of the rationale of considering some of the Giovannini Barriers as fully dismantled or as not requiring further actions.

The following annexes are included at the end of this Report:

Annex 1: List of EPTF Members

Annex 2: List of acronyms

Annex 3: Detailed analysis of the European Post Trade Landscape[4]

[4] Annex 3 is available as a separate document here: http://ec.europa.eu/info/files/170515-eptf-report-annex-3_en

1.1. Table of Contents

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2. Executive Summary

2.1. Brief Overview of Current State of Post Trade Reform

2.1.1. Regulatory Initiatives

In addition to earlier EU post trade legislation such as the Settlement Finality Directive of 1998 and the Financial Collateral Directive of 2002, the following are the **most important pieces of legislation**, introduced subsequent to the financial crisis of 2007/2008, focusing on the **core post trade functionalities** of clearing and settlement and respective financial market infrastructure:

- **EMIR:** The Regulation (EU No 648/2012) introduces mandatory clearing through CCPs of standardised OTC derivatives and reporting to Trade Repositories (TRs) of all derivatives. It establishes a unified European regulatory framework for CCPs and TRs, including organisational, conduct of business and prudential requirements. It also establishes rules for protection of clients in the event of failure of a CCP participant.
- **CSDR**: The Regulation (EU No 909/2014) aims at (i) increasing the safety of settlement, in particular for cross-border transactions, by introducing a settlement discipline regime (ii) increasing the efficiency of settlements by introducing a true internal market for the operations of CSDs and (iii) increasing the safety of CSDs by applying high prudential requirements in line with international standards.
- **SFTR:** The Regulation (EU 2015/2365) is set to improve the transparency of certain financial transactions and help supervisors and investors better understand risks. It enhances transparency in three ways:
    - It introduces the reporting of all Securities Financing Transactions (SFTs), except those concluded with central banks, to TRs;
    - Investment funds have to disclose information on the use of SFTs and total return swaps to investors;
    - SFTR introduces minimum transparency conditions on the reuse of collateral.

2.1.2. Current State of Dismantling the Giovannini Barriers

The following Giovannini Barriers (GB) have been dismantled:

- GB 2 & 5: Practical impediments to access to national clearing and settlement systems
- GB 4: Absence of intra-day settlement finality in CSDs
- GB 6: National differences in settlement periods
- GB 7: National differences in operating hours/settlement deadlines.

Chapter 9 describes the reasons for the EPTF's assessment that these barriers are dismantled or not in need of further action.

2.2. Major Unresolved Issues

This Report covers major unresolved issues measured in the context of CMU against the objective of an integrated, safe and efficient post trade system in Europe that originate from non-dismantled Giovannini Barriers, Giovannini Barriers that changed their nature and new barriers and bottlenecks.

The following EPTF Barriers should obtain, in the view of EPTF members, the highest priority to be resolved and dismantled.

EPTF Barrier 12: Inefficient withholding tax collection procedures

– a barrier to efficient cross-border investments

Inefficient withholding tax recovery procedures, including the lack of a relief-at-source system, where applicable, are a major barrier to efficient cross-border investments.

Solutions have been developed at international and at EU level; they need to be implemented by Member States with guidance of the European Commission as one of the highest priorities of a CMU Action Plan.

The dismantling of this barrier will have positive synergy effects to the EPTF Barriers 4 and 5 (Asset Segregation, Registration).

EPTF Barriers 8, 9, 10, 11: Legal inconsistencies and uncertainties

– a barrier to a successful capital market union

A strong legal framework which operates consistently across the EU is an essential requirement for a successful capital markets union.

The EPTF's operationally driven approach defines the following legal areas as highest priorities for regulatory initiatives of the European Commission:

- Risk protection to provide more robust netting, collateral and default-management arrangements.
- Investor protection to ensure investors' ownership rights in a dematerialised environment through the custody chain.
- Amended rules of settlement finality to reduce risks for infrastructures and their users.
- Conflict of laws rules to create legal certainty.

The proposed solutions are closely linked to EPTF Barriers 1 (Corporate Actions), 4 (Asset Segregation) and 5 (Registration).

<u>EPTF Barrier 1: Fragmented corporate actions and general meeting processes</u>

– a risk that successful barrier dismantling work is jeopardised by renewed fragmentation

One of the most complex areas of post trade services is related to the processing of corporate action events and general meetings. This area is in an advanced state of being harmonised and standardised through industry and Target2-Securities (T2S) efforts.

To preserve and support this industry initiative it is vital that in the context of the amended Shareholder Rights Directive the implementing acts of the European Commission and the transposition into national laws by Member States avoid any fragmentation resurfacing.

The dismantling of EPTF Barrier 9 (client asset protection) will have a positive spill-over effect on the determination of investors' entitlements, both of a monetary and participation nature.

<u>EPTF Barrier 4: Inconsistent application of asset segregation rules</u>

– providing for safety and efficiency through harmonisation

Different segregation requirements create inconsistencies and increased costs and risks without increased investor protection in the absence of harmonised insolvency laws.

Amendments should be made to EU and Member States legislation to conform with the principles (i) client assets to be segregated from proprietary assets in an insolvency proof manner and (ii) account structures to be open to investor choice.

The dismantling of EPTF Barrier 9 (client asset protection) will positively correlate to investors' ownership rights irrespective of the account structure.

<u>EPTF 5: Lack of harmonisation in registration and investor identification rules and processes</u>

– an obstacle to cross-border securities investment and issuance

Registration regimes and shareholder transparency practices vary widely from country to country; at cross-border level this translates into increased complexity and cost.

Operational registration procedures and shareholder identification procedures should be harmonised and standardised.

<u>EPTF 6: Complexity of post-trade reporting structure</u>

– an obstacle to making the EU an attractive investment destination

The lack of harmonisation across multiple post trade reporting requirements increases the cost of reporting and the complexity of data analysis.

The European Commission should develop a harmonised and simplified reporting 'package' for post trade relevant EU regulations and rules.

3. Abstract of the Detailed Analysis of the Current Post Trade Landscape

3.1. Definition of Post Trade and its Role in the Financial Sector

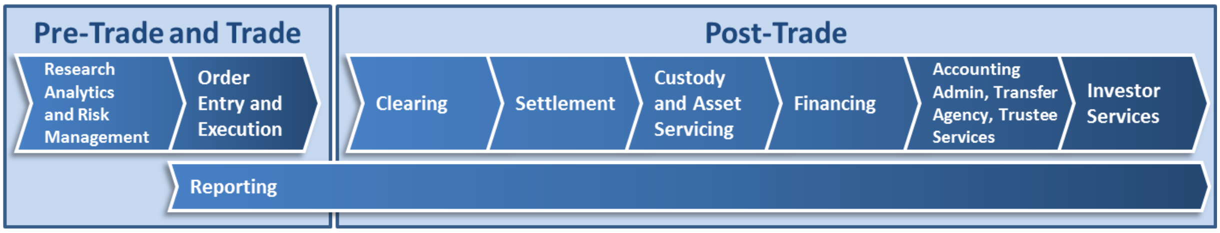
Post trade processes that are in scope of the work of the European Post Trade Forum (EPTF) comprise the services that are performed subsequent to the execution of a trade in the cash securities markets and in the derivatives markets. These services, provided in support to primary and secondary markets, broadly include:

- Clearing
- Settlement
- Asset servicing
- Post-trade reporting.

Post trade processes also include support to investment funds, securities financing (i.e. securities lending and repo transactions), collateral management services and support to issuers of securities.

Post trade services are an **integral part of the financial industry value chain** as the graph below demonstrates. Thus, proceeds of the issuance of financial instruments will only be credited to the issuer's account upon related post trade services having come into play, as will trading counterparties' agreement to buy or sell only be executed, resulting in a change of ownership, as a result of the delivery of post-trade services.

Figure 1: Financial industry value chain



Source: EPTF.

Yet, the post-trade landscape in Europe is still characterised by **diversities and fragmentation** that cause **inefficiency and risks.** Operational, fiscal and legal **harmonisation and standardisation** as proposed in the Giovannini Reports are means to increase efficiency and to reduce risks.

Safe, integrated, harmonised and efficient post trading systems are an enabling element in the **context of the key principles of the CMU Action Plan**[5], creating more opportunities for investors, connecting financing to the real economy, fostering a stronger and more resilient financial system, deepening financial integration and increasing competition.

[5] *See* CMU Action Plan: http://ec.europa.eu/finance/capital-markets-union/docs/building-cmu-action-plan_en.pdf

3.2. Brief Description of Post Trade Services

3.2.1. CCP Clearing

CCP clearing is a post trade service performed by CCPs (see description in 3.3.1.1. below) that guarantees reciprocal counterparty performance and is used for derivatives, equities and fixed income instruments. CCPs also clear repo and securities lending transactions.

3.2.2. Settlement

The European Central Securities Depositories Regulation, CSDR, defines settlement as "the completion of a securities transaction where it is concluded with the aim of discharging the obligations of the parties to that transaction through the transfer of cash or securities or both".

In relation to **securities settlement**, the buyer receives the purchased securities and the seller receives the corresponding cash in exchange for those securities. The exchange of cash and securities is usually carried out in a Securities Settlement System (SSS) operated by a Central Securities Depository, CSD (see description in 3.3.1.2. below), using a procedure known as Delivery versus Payment (DvP), a settlement mechanism which links the securities transfer and a funds transfer in such a way as to ensure that one transfer occurs if, and only if, the other transfer occurs.

Investment fund units may either be CSD-eligible and settle as described above, or settle with a Transfer Agent (TA).

Exchange Traded Derivatives (ETD) may be settled in cash or physically. ETDs are usually settled in cash, whereby the settlement amount results from the difference between the entry price and the settlement price. In the case of physically settled ETDs, settlement will take place though delivery or receipt of the underlying asset.

Over-the-counter (OTC) Derivatives are mostly settled in cash.

3.2.3. Asset Servicing

The term "asset servicing" relates to the processing of **events during the life of a security**. From the point of view of an investor, the terms relate to the process whereby an investor is able to **benefit from rights or exercise rights** relating to the holding of a securities position. Asset services include custody services and related corporate action processing, tax processes, registration processes, shareholder identification processes and general meeting processes, as well as value added and ancillary services.

Corporate actions may also have an impact on derivatives, repos and securities lending transactions.

3.2.4. Post Trade Reporting

In the aftermath of the 2008 crisis, enhanced, or in some cases new, mandatory post-trade reporting regulations and rules have been implemented in the majority of key global jurisdictions requiring the reporting of individual transactions and/or positions of nominated participants. Complementary to reporting requirements at national level, within the EU, the regulations include but are not limited to MiFIR, EMIR, SFTR and REMIT.

Post trade reporting is typically performed by intermediaries, i.e. financial market infrastructures and banks / custodians through Trade Repositories (see description in 3.3.1.3. below).

3.3. High level outline of post trade service providers and market structures

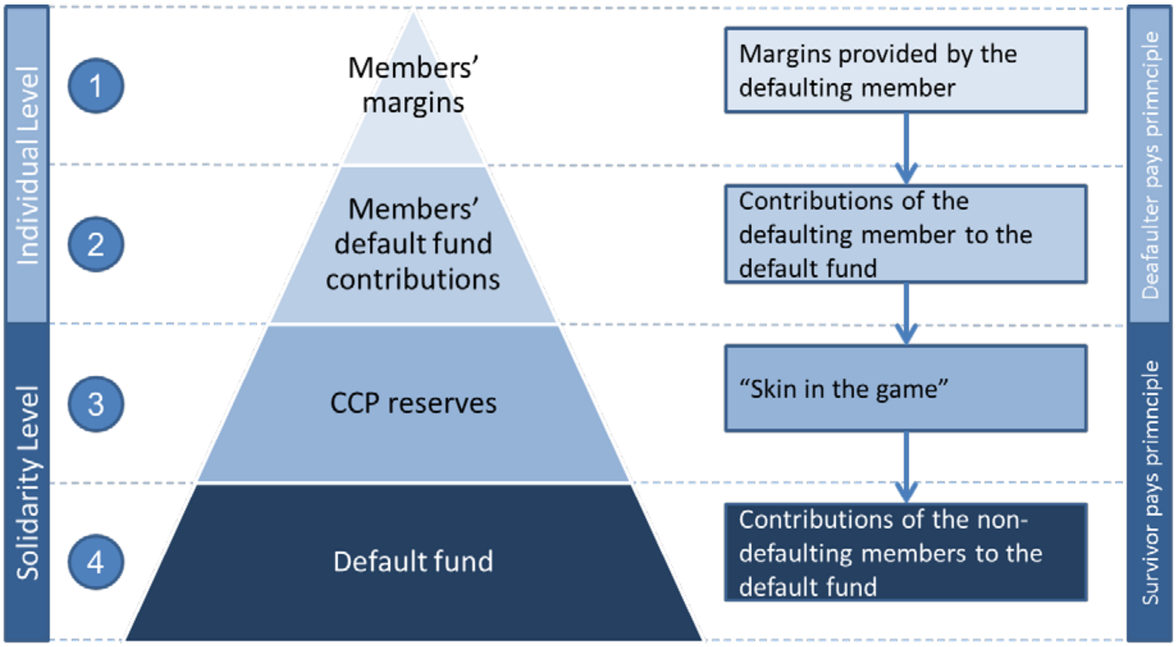
3.3.1. Financial market infrastructures

3.3.1.1. Central Counterparties, CCPs

A CCP interposes itself between the two trading parties becoming the buyer to every seller and the seller to every buyer – the CCP takes on the liability for settlement. The main function of a CCP is therefore to guarantee the reciprocal performance of obligations between buyers and sellers (i.e. the counterparties) of financial instruments (e.g. shares, bonds and derivatives) negotiated on trading venues (e.g. a stock exchange) or bilaterally between trading parties (Over-The-Counter, OTC) through a process called clearing.

A **CCP's resources to manage the risks assumed** from taking on the liability for settlement are shown in the graph below.

Figure 2: CCP's "default waterfall"



Source: EACH, EPTF.

For events **unrelated to the default of a clearing member** (e.g. cyber-attack, fraud), EMIR defines a set of capital requirements that CCPs should maintain to address any losses caused by such an event. These resources should at all times be sufficient to ensure recovery from such risks or, where necessary, an orderly winding-down or restructuring of the activities over an appropriate time span.

Risk mitigation is the primary function of a CCP. A CCP independently and continuously manages the risk of counterparties and ensures there are sufficient resources available to deal with extreme but plausible market events.

Another useful function that a CCP can provide is "netting". If a counterparty buys and sells the same financial instruments in a day, these transactions can also be netted, reducing the total number of financial instruments to be received or delivered, thus reducing its exposure.

The European **market structure** in the clearing space is currently characterised by 17 EU CCPs that are authorised by the national competent authorities of their home Member States and 28 third country CCPs recognised by ESMA under EMIR and their direct and indirect clearing members, as well as their clients (typically the trading parties).

In the cash securities space, a number of interoperability links have been established, and allow clearing members belonging to different CCPs to clear trades with each other. Interoperability in the derivatives space is currently not a prevalent feature of the post-trade landscape.

3.3.1.2. Central Securities Depositories, CSDs

Historically, CSDs across Europe have been established along national lines (on the basis of legal statutes or as a specialised financial institution) to provide a local **venue for the settlement of securities** at the level of a national exchange. The listing practices and needs of local investors, as well as national legal and regulatory concepts and traditions, have driven the development of domestic services.

Following the support received from almost all euro area CSDs as well as from the European Parliament and Council, the Governing Council of the ECB launched the **Target2-Securities** (T2S) project in July 2008. The goal was to integrate and harmonise Europe's securities settlement landscape. This would be achieved by means of a single technical platform for settlement in central bank money. T2S was launched in July 2015 and its final migration wave is planned for September 2017. It already settles close to 90% of all securities transactions in central bank money in euro.

The main actors of the **market structure** in regard of settlement are CSDs[6], Central Banks and CSD participants. One of the overriding objectives of T2S is to foster competition between CSDs and contribute to financial integration. Other factors that make the CSD landscape increasingly competitive are CSDR provisions on issuer choice and the passporting of CSD services, access considerations in MiFID and MiFIR and settlement internalisation by CSD participants.

3.3.1.3. Trade Repositories

Trade Repositories, TRs, centrally collect and maintain the records of derivatives (based on EMIR) and securities financing transactions (based on SFTR). They play a central role in enhancing the transparency of derivative markets securities financing markets and reducing risks to financial stability.

3.3.2. Banks and custodians

Banks and custodians play a critical role as intermediaries with respect to trading and post-trading services. Given the reality of large numbers of financial market infrastructures both in Europe and

[6] Across 37 European countries there are 41 national and international CSDs.

globally, individual market participants are often unable to access all these infrastructures directly. In order to be able to access these infrastructures, and thus to participate in the markets which these infrastructures serve, market participants need to be able to use intermediaries.

Banks and custodians as intermediaries offer to differing degrees inter alia the following services:

- providing the post trading services to new and existing issues, and to their issuers;
- offering clearing and settlement services to end investors;
- acting as Global Custodian or Sub-Custodians connecting issuers and end investors in the custody chain and offering asset servicing services;
- performing the role of GCMs of CCPs and participants of CSDs;
- providing specialised services in the area of securities financing and collateral management.

These post-trade services can be provided in relation to cash securities (including investment funds), securities financing (repo and securities lending) and derivatives.

3.4. Impact of Fintech / Distributed Ledger Technology

The digital transformation of society will need to be taken into account when considering the way financial entities relate with their customers: from ensuring electronic access to providing more targeted financial advice through data analytics. Digitisation will also bring opportunities to develop sounder markets and increase efficiency. A thorough fitness check by the EU of the existing regulatory framework is necessary to ensure the current framework is up to date, future-proof and does not impede innovation and competitiveness in the Digital Single Market for financial services. At the same time, financial innovation should not introduce new risks.

In particular, the EPTF takes the view[7] that developments in the Fintech / Distributed Ledger Technology (DLT) domain could have a significant impact on post trade services, related operational processes and regulatory requirements. However, at this stage an assessment of such impact appears difficult if not impossible.

As the proposed actions target to a large extent harmonisation and standardisation, in order to increase efficiency and safety of European post trade, the EPTF considers them useful in a Fintech / DLT environment too.

With this in mind and given uncertainties in regard of scope and time, as well as the safety and efficiency of DLT solutions, the EPTF, when developing proposed solutions to identified barriers, has not relied on Fintech / DLT applications, but considers that they might in the future contribute possible solutions to certain of the diagnosed issues.

[7] See also Chapter 8 of Annex 3.

Synthetic View of Barriers

The following tables provide a synthetic view of the current status of the Barriers:

- Comparative listing of "Giovannini Barriers" vs "EPTF Barriers"

- List of "EPTF Barriers"

Comparative listing of "Giovannini Barriers" vs "EPTF Barriers"

GB Barrier nr.	GB Barrier Title	Responsible entity (1)	**EPTF** Barrier nr.	EPTF Barrier Title	Notes
I. Barriers related to technical requirements/market practice.					
GB 1	National differences in information technology and interfaces	Private Sector (SWIFT)	EPTF **2**	Lack of convergence and harmonisation in information messaging standards	
GB 2	National clearing and settlement restrictions that require the use of multiple systems.	National governments	XX		Barrier dismantled
GB 3	Differences in national rules relating to corporate actions, beneficial ownership and custody	Private Sector (ECSA, ECSDA)	EPTF **1**	Fragmented corporate actions and general meeting processes	
GB 4	Absence of intra-day settlement finality	Private Sector (ECSDA)	XX		Barrier dismantled
GB 5	Practical impediments to remote access to national clearing and settlement systems	National governments	XX		Barrier dismantled
GB 6	National differences in settlement periods	Private Sector	XX		Barrier dismantled
GB 7	National differences in operating hours/settlement deadlines	Private Sector (ECSDA)	XX		Barrier dismantled in T2S markets
GB 8	National differences in securities issuance practice	Private Sector (IPMA, ANNA)	EPTF **7**	Unresolved issues regarding reference data and standardised identifiers	Merged with GB 9
GB 9	National restrictions on the location of securities	National governments			Merged with GB 8
GB 10	National restrictions on the activity of primary dealers and market makers	National governments	EPTF WL1	National restrictions on the activity of primary dealers and market makers	
II. Barriers related to taxation					
GB 11	Domestic withholding tax regulations serving to disadvantage foreign intermediaries	National governments	EPTF **12**	Inefficient withholding tax collection procedures	

GB Barrier nr.	GB Barrier Title	Responsible entity (1)	**EPTF** Barrier nr.	EPTF Barrier Title	Notes
GB 12	Transaction taxes collected through a functionality integrated into a local settlement system	National governments	EPTF WL5	Non-harmonised procedures to collect transaction taxes	
III. Barriers relating to legal certainty					
GB 13	The absence of an EU-wide framework for the treatment of interests in securities	National governments	EPTF **9**	Deficiencies in the protection of client assets as a result of the fragmented EU legal framework for book entry securities	
GB 14	National differences in the legal treatment of bilateral netting for financial transactions	National governments	EPTF **8**	Uncertainty as to the legal soundness of risk mitigation techniques used by intermediaries and of CCPs' default management procedures	
GB 15	Uneven application of national conflict of law rules	National governments	EPTF **11**	Legal uncertainty as to ownership rights in book entry securities and third party effects of assignment of claims	

(1) "Responsibility", as indicated in the 2nd Giovannini Report 2003

List of "EPTF Barriers"

EPTF Barrier nr.	EPTF Barrier Title	Priority (2)	Responsible entity (2)	Chapter	Synergies and dependencies	**GB** Barrier nr.
	I. Operational Barriers					
EPTF **1**	Fragmented corporate actions and general meeting processes	High	Private sector (all relevant parties), EU and national policy makers	Operational Barriers	EPTF 2 (messaging standards), EPTF 5 (shareholder registration), EPTF 9 (client asset protection) and EPTF 11 (ownership rights)	GB 3
EPTF **2**	Lack of convergence and harmonisation in information messaging standards	High	Market participants and regulators	Operational Barriers		GB 1
EPTF **3**	Lack of harmonisation and standardisation of ETF processes	Medium	Private sector, EU Commission	Operational Barriers		New
	II. Structural Barriers					
EPTF **4**	Inconsistent application of asset segregation rules for securities accounts	High	EU Commission and Member States	Structural Barriers	EPTF 9 (client asset protection) and EPTF 11 (ownership rights)	New
EPTF **5**	Lack of harmonisation of registration and investor identification rules and processes	High	Private sector, EU Commission and Member States	Structural Barriers	EPTF 2 (messaging standards)	New
EPTF **6**	Complexity of post-trade reporting structure	High	EU Commission	Structural Barriers	EPTF 2 (messaging standards)	New
EPTF **7**	Unresolved issues regarding reference data and standardised identifiers	Medium	EU Commission	Structural Barriers		GB 8 & 9 redefined and combined
	III. Legal Barriers					
EPTF **8**	Uncertainty as to the legal soundness of risk mitigation techniques used by intermediaries and of CCPs' default management procedures	High	EU Commission	Legal Barriers	EPTF 11 (ownership rights)	GB 14

EPTF Barrier nr.	EPTF Barrier Title	Priority (2)	Responsible entity (2)	Chapter	Synergies and dependencies	**GB** Barrier nr.
EPTF **9**	Deficiencies in the protection of client assets as a result of the fragmented EU legal framework for book entry securities	High	EU Commission	Legal Barriers	EPTF 4 (asset segregation) and EPTF 11 (ownership rights)	GB 13
EPTF **10**	Shortcomings of EU rules on finality	High	EU Commission	Legal Barriers	EPTF 8 (risk mitigation)	New
EPTF **11**	Legal uncertainty as to ownership rights in book entry securities and third party effects of assignment of claims	High	EU Commission	Legal Barriers	EPTF 9 (client asset protection)	GB 15
	IV. Tax Barriers					
EPTF **12**	Inefficient withholding tax collection procedures	High	EU Commission and Member States	Tax Barriers	EPTF 4 (asset segregation) and EPTF 5 (shareholder registration)	GB 11
	V. Barriers on Watchlist					
EPTF WL1	National restrictions on the activity of primary dealers and market makers	Watchlist		Watchlist		GB 10
EPTF WL2	Obstacles to DvP settlement in foreign currencies at CSDs	Watchlist		Watchlist		New
EPTF WL3	Issues regarding intraday credit to support settlement	Watchlist		Watchlist		New
EPTF WL4	Insufficient collateral mobility	Watchlist		Watchlist		New
EPTF WL5	Non-harmonised procedures to collect transaction taxes	Watchlist		Watchlist		GB 12

(2) "Priority" and "Responsibility", as indicated in the EPTF Report.

4. Operational Barriers

Introduction

The First Giovannini (2001) Report identified six so-called "industry barriers"[8] :

- Giovannini Barrier 1: Diversity of IT platforms
- Giovannini Barrier 3: Corporate actions
- Giovannini Barrier 4: Absence of intra-day settlement finality
- Giovannini Barrier 6: Differences in standard settlement periods
- Giovannini Barrier 7: Different operating hours / settlement deadlines
- Giovannini Barrier 8: Differences in securities issuance

The CESAME group report concluded in 2008 that "While [Giovannini] Barrier 8 (…) has been dismantled, more work needs to be done on the other [industry] barriers"[9]. The EPTF discussions in 2016 / 2017 led to the conclusion that Giovannini Barriers 4, 6 and 7 had been removed as well since 2008, under the double beneficial impact of the CSD Regulation and the launch of T2S.

Giovannini Barriers 1 and 3, already identified at the time of the Giovannini Reports and of the CESAME Group as the most complex ones, are still unanimously considered today as not being (to various degrees) removed and, as such, they are still deemed serious obstacles to a smooth functioning of an integrated European financial market. These are the two remaining Giovannini Barriers addressed in this chapter. A new operational barrier will also be addressed in this chapter, namely the EPTF Barrier 3 on Exchange Traded Funds (ETFs).

This chapter therefore includes the following EPTF Barriers:

- <u>EPTF Barrier 1:</u> Fragmented corporate actions and general meeting processes (formerly Giovannini Barrier 3);
- <u>EPTF Barrier 2:</u> Lack of convergence and harmonisation in information messaging standards (formerly Giovannini Barrier 1);
- <u>EPTF Barrier 3:</u> Lack of harmonisation and standardisation of ETF processes.

[8] As opposed to the so-called "public sector-related" Giovannini Barriers.
[9] CESAME Report – 28 November 2008 – page 11.

EPTF BARRIER 1: Fragmented corporate actions and general meeting processes

Former Giovannini Barrier 3

Description of the issue: this barrier relates to one of the most complex areas of post trade, the exercise of investors' rights in relation to corporate actions and general meetings. National differences in the rules governing corporate actions processing and general meetings-related operational processes increase costs and operational risks, particularly in a cross-border environment where the ability to exercise the rights flowing from securities may be jeopardised.

All relevant constituencies (i.e. issuers, financial market infrastructures, intermediating custodians and investors) have already agreed and endorsed market standards (both for Corporate Actions Processing and for General Meetings) and the process of implementing the Market Standards for Corporate Actions Processing in major markets is well advanced. But full implementation is still to be completed.

In addition, the endorsement and monitoring of the T2S Corporate Actions Standards by the T2S Advisory Group, has contributed greatly to the harmonisation of corporate action rules and procedures, at least in the 21 T2S markets.

Priority: High.

Summary of proposed action: continuation and finalisation of the process of implementing the two sets of market standards. The amended Shareholder Rights Directive will provide a meaningful boost to the process of implementing the Market Standards for General Meetings. A re-surfacing of fragmentation at national level for corporate actions and general meetings processes should be avoided by consistent level 2 regulation.

Responsibility:

- Industry to finalise the process of implementing the two sets of market standards.
- Policy makers at European and at national level to consider the two sets of market standards to the highest possible extent when adopting the implementing acts and transposing Articles 3b and 3c of the amended Shareholders Rights Directive[10] respectively.

1. Description of the Barrier

As outlined in the Giovannini Reports, this barrier relates to national differences in the rules governing corporate actions processing and general meetings related operational processes. This barrier covers a broad range of topics including operational and legal issues[11].

The fact that the standard setting industry working groups have developed and agreed more than 120 standards for corporate actions processing and more than 30 standards for general meetings is proof of the divergences that required harmonisation and standardisation. In addition, the T2S

[10] The revised Shareholders Rights Directive (SRD2) was agreed by the European Parliament and the Council in March 2017 but at the time of issue of this Report had not been published in the Official Journal of the EU. The text which the EPTF has used to compile this Report is document number PE-CONS 2/17 dated 23 March 2017.

[11] For a more detailed description of issues see Annex 3, chapter 3.6. Asset Servicing, in particular sections 3.6.3.1., 3.6.3.2., 3.6.3.7., 3.6.3.8..

community of stakeholders has developed another set of 59 standards for the processing of corporate actions on flows, i.e. pending transactions, in T2S, which are based on the market corporate action standards.

The change of laws made by Member States, e.g. France and Germany, to become compliant with market standards demonstrates the degree of fragmentation that existed prior to the change of laws.

In relation to the regulatory framework, articles 3b and 3c of the agreed amended Shareholders Rights Directive[12] regulate the transmission of information and the facilitation of the exercise of shareholder rights both for corporate actions and the right to participate and vote in general meetings.

2. Consequences of the Barrier

This barrier relates to one of the most complex areas of post trade, the exercise of shareholders' rights in relation to corporate actions and general meetings. The lack of harmonisation and standardisation of operational processes increases costs and operational risks, particularly in a cross-border environment where the ability to exercise the rights flowing from securities, in particular rights related to general meetings, may be jeopardised. The elimination of these shortcomings and inefficiencies is a key element of successful European post trade reform and at the same time a major post trade contribution to a single European capital market.

Therefore, industry has made a significant effort to develop standards for corporate actions[13] processing and for general meetings[14] and their implementation in all European markets:

- All relevant constituencies, i.e. issuers, financial market infrastructures (including connectivity channels and reference data providers), intermediating custodians and investors have agreed and endorsed some 120 Market Standards for Corporate Actions Processing in 2009 and 31 Market Standards for General Meetings in 2010.
- National Market Implementation Groups are tasked with implementing the Market Standards for Corporate Actions Processing in their respective markets; their representatives participate in semi-annual / annual workshops of the European Market Implementation Group (E-MIG), the remit of which is to monitor the state of implementation by means of standardised progress reports. National legislators have supported the implementation process by changes of law, where required (e.g. Germany and France).

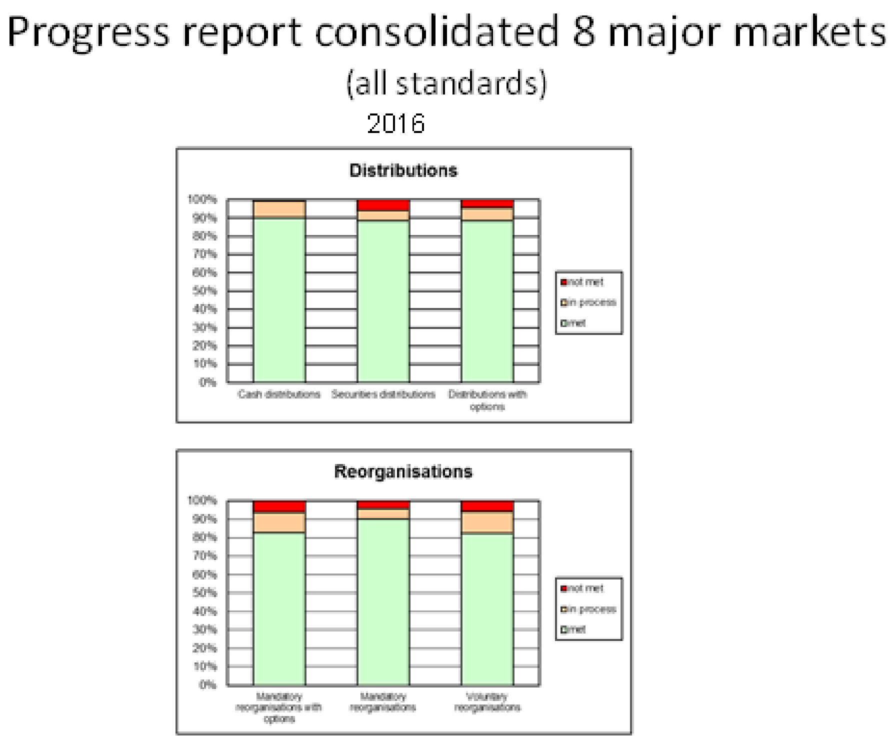
The process of implementing the Market Standards for Corporate Actions Processing in major markets is well advanced as the figure below indicates. For the state of implementation of the standards in all markets see all progress reports on Section 3.6.3.3.3. of Annex 3.

[12] The revised Shareholders Rights Directive (SRD2) was agreed by the European Parliament and the Council in March 2017 but at the time of issue of this Report had not been published in the Official Journal of the EU. The text of SRD2 which the EPTF has used to compile this Report is document number PE-CONS 2/17 dated 23 March 2017 located at http://data.consilium.europa.eu/doc/document/PE-2-2017-INIT/en/pdf, and the article numbers referred to in this Report are taken from that version.

[13] http://www.afme.eu/globalassets/downloads/briefing-notes/afme-cajwg-standards-revised-version-2012-updated-2015.pdf

[14] http://www.ebf-fbe.eu/uploads/Market%20Standards%20for%20General%20Meetings.pdf

Figure 3: Market Standards for Corporate Actions Processing



Source: Documentation E-MIG workshop, November 2016 in Madrid.

- The conclusions of the E-MIG workshop held in Madrid in November 2016 showed that most major markets are expected to be fully compliant with the Market Standards for Corporate Actions Processing in 2017/18, while other markets, in particular central and eastern European markets make significant efforts to this end.
- The amended Shareholder Rights Directive will provide a meaningful boost to the process of implementing the Market Standards for General Meetings.

With the aim of supporting the implementation of the market standards as well as fostering settlement efficiency in T2S, the T2S Advisory Group (AG)[15] has defined and endorsed the T2S corporate action standards on flows[16], i.e. pending transactions. These standards are based on and aligned to, the market standards and provide a detailed single rule book for the settlement of corporate actions for the 21 T2S markets covering 23 CSDs.

It should be mentioned that although the AG is directly monitoring the T2S corporate action Standards, it also assesses the results of the EMIG monitoring on the market standards. This has

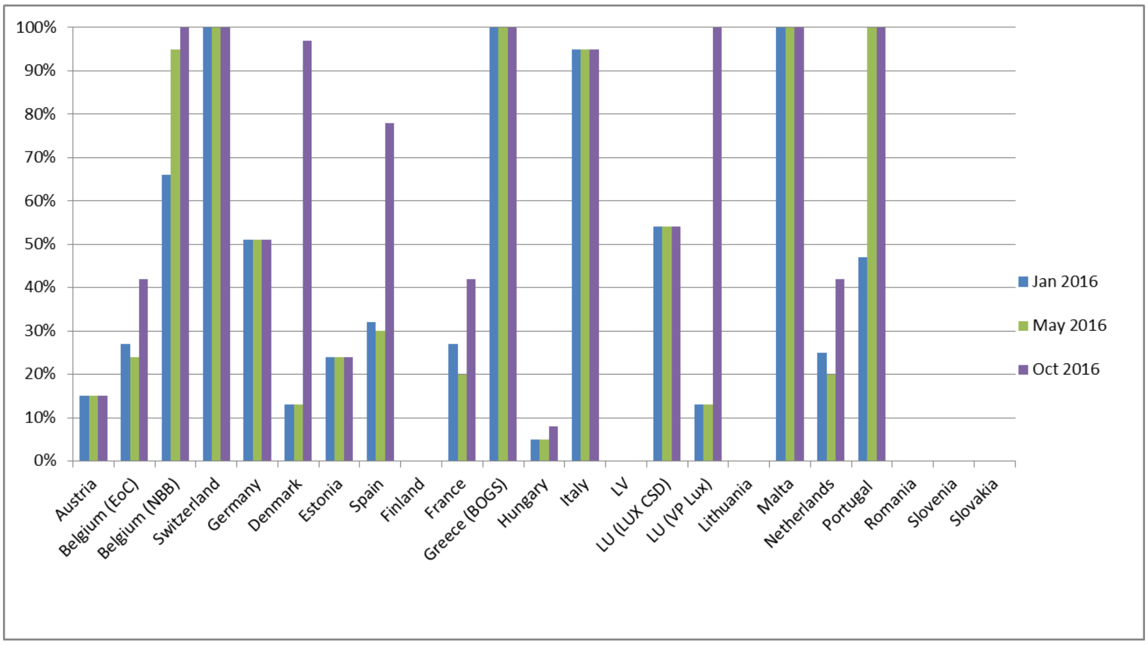
[15] The T2S Advisory Group (AG) represents the T2S community of stakeholders, i.e. NCBs, CSDs and their users. http://www.ecb.europa.eu/paym/t2s/governance/ag/html/index.en.html. The newly established Advisory Group on Market Infrastructures for Securities and Collateral ("AMI-SeCo") replaces the T2S Advisory Group.

[16] https://www.ecb.europa.eu/paym/t2s/governance/ag/html/subcorpact/index.en.html

worked as a catalyst for the T2S markets also to comply with the market standards as in many cases compliance with these standards is a prerequisite to comply with the T2S standards.

The latest results on the T2S markets compliance with the T2S as well as the market corporate action standards can be found in the Seventh T2S harmonisation progress report published by the AG on 31 January 2017[17].

Figure 4 Statistical compliance of T2S markets with the T2S corporate actions standards



Source: October 2016 CASG[18] gap analysis report[19].

A separate issue which is not addressed by the market standards mentioned above relates specifically to the processing of corporate actions in the case of securities financing transactions (SFTs[20]). In the case of SFTs, the Seller/Lender of securities has a contractual right to receive any proceeds from corporate actions, in particular coupon and dividend payments, although these will be paid to the Buyer/Borrower, as legal owner of the security. In the case of coupon or dividend payments this is typically achieved through a contractual compensatory payment from the Buyer/Borrower to the Seller/Lender. Unlike in the US, in Europe this process is however still very manual, as custodians and CSDs are in most cases not able to distinguish SFTs from cash trades and thus not able to automate the income collection process for SFTs. This means that firms have to process a claim for each payable on an SFT, which can significantly delay the payment/receipt process, result in call backs for the instructions and generally amount to a significant barrier for firms' efficient liquidity management. Implementing a more automated process would require repos and other SFTs to be systematically identified at the level of custodians and market infrastructures. The industry needs to get together to address this problem and upcoming

[17] http://www.ecb.europa.eu/paym/t2s/progress/pdf/ag/2017-01-31_7th_T2S_Harmonisation_Progress_Report.pdf?a088b1c2367e7f3ea1bb0448e303002b
[18] http://www.ecb.europa.eu/paym/t2s/governance/ag/html/subcorpact/index.en.html
[19] http://www.ecb.europa.eu/paym/t2s/progress/pdf/subcorpact/20161117_final_consolidated_end_2016_casg_gap_analysis_report.pdf
[20] As defined in Regulation (EU) 2015/2365 (SFTR) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2365&rid=1

regulations, such as CSDR and SFTR are expected to provide a further rationale for doing so. However, T2S also has a potentially important role to play in this context, as the platform currently does not allow for a distinction between cash trades and SFTs. Adding such functionality could be a good way forward towards a more automated and more efficient process. In some cases, achieving such a more automated and more efficient process may depend on how national tax rules treat SFTs.

3. Proposed way forward

3.1. Who should act to address the Barrier

- **All relevant parties, including issuers, trading venues, CSDs, and intermediaries** should continue and finalise the process of implementing the two sets of market standards, in the case of corporate actions by 2017/2018 for the 8 major markets (France, Germany, Italy, The Netherlands, Spain, Sweden, Switzerland, UK/Ireland)[21].
- The coming into force of the amended Shareholder Rights Directive will strongly support the successful implementation of the general meeting market standards in all European markets as the provisions that cover end-to-end communication between issuers and shareholders and the facilitation of the exercise of rights flowing from securities are essential elements of the two sets of market standards.
- The industry, including intermediaries and market infrastructures, in collaboration with T2S should consider implementing solutions for the identification and processing of SFTs at the level of custodians and infrastructures in order to facilitate the automation of corporate action processing for SFTs. Where necessary, this may involve liaison with national tax authorities.
- **Policy makers at European and at national level** should consider the two sets of market standards to the highest possible extent when adopting the implementing acts and transposing Articles 3b and 3c of the amended Shareholders Rights Directive respectively, to avoid the risk of re-surfacing fragmentation.

3.2. By when should that action be taken

- Major European markets should be fully compliant with the standards by 2018.
- Public sector authorities should provide for alignment as described above in the course of SRD level 2 regulation and transposition into national law respectively.

3.3. Priority of the Barrier

Proposed priority: high, as

- achieving the complete removal of this barrier is a key element of post trade reform and a major contribution to the CMU project, because it will significantly facilitate cross-border investments;

[21] The regular process of monitoring the state of implementing the Market Standards for Corporate Actions Processing covers all European markets. However, in view of the fact that the 8 major markets account for the overwhelming proportion of corporate action events, special attention in the monitoring process is given to them. Details of the state on implementation in all markets are included in Annex 3.

- maintaining the momentum of industry efforts in implementing the two sets of markets standards is essential;
- avoiding any discrepancies between the market standards and the implementing regulations based on the amended Shareholder Rights Directive at EU and at Member States level is of paramount importance to prevent fragmentation in corporate action and general meeting processes.

EPTF BARRIER 2: Lack of convergence and harmonisation in information messaging standards

Former Giovannini Barrier 1

Description of the issue: national differences particularly in non-T2S markets remain in information technology and interfaces used by post-trade clearing and settlement providers in the cash securities space. Derivatives markets and securities finance transactions are usually not covered by the protocols and standards used in the cash securities markets. Despite standardisation efforts by the industry there remain large differences in information messaging standards, and some market participants primarily active at domestic level are reluctant to fully migrate to the latest international standards. The overall consequences for all markets are a higher processing cost as well as a higher risk of errors due to a greater level of manual processing.

Priority: High.

Summary of proposed action: digitisation (in order to improve STP), harmonisation (or interoperability when full harmonisation is not possible) and standardisation (common identifiers should be a common basis) should be the guiding principles. As far as cash markets are concerned it is even suggested that the EU authorities could create a compelling event that would accelerate the migration to ISO 20022 message standards or to future globally accepted standards.

Responsibility: market participants / regulators.

1. Description of the Barrier

Barrier 1 was described in the Giovannini Reports as the national differences in information technology (IT) and interfaces used by post-clearing and settlement providers in the cash securities space. The proposed solution was a standardised protocol for communication, including harmonised connections and messaging protocols based on ISO standards (ISO 15022) to be proposed by SWIFT and with contribution from ECSDA. The barrier solution had four main elements: 1. Definition of the Protocol; 2. Message Standards Gap Analysis; 3. Standards availability; and 4. Implementation. The standards setting should cover settlement & reconciliation, corporate actions, collateral management, cash management, clearing and other business processes (e.g. proxy voting, reference data).

Despite multiple efforts to define message standards and progressively implement them, this barrier still exists today in particularly for non-T2S cash securities markets and for derivatives markets/collateral management. EPTF analysis has split the analysis of the barrier in three different domains:

1) Message standards in the cash securities markets;
2) Message standards in derivatives markets and collateral management;
3) Regulatory reporting.

1.1. Message standards in the cash securities markets

ISO standards for messaging used in transactions between financial institutions (including market infrastructures) have evolved overtime in line with the development of the financial industry. A first standard (ISO 7775) was issued in 1985. It was followed by a second standard (ISO 15022)

issued in 1995. The third standard (ISO 20022) was issued in 2004. Each standard cover a broader range of activities, data fields and data formats. The objective of each standard is to facilitate secure communications on automated channels between two parties with the goal to achieve straight through processing (STP). Full STP is achieved when the computer of the sending institution sends a message in an agreed standard format, it is received and read by the computer of the receiving institution and it leads to correct processing without the need of re-keying or human intervention; alternatively, if the correct expected processing cannot be completed, an operational flag is raised to request human intervention.

It is to be noted that the specificity of the ISO 20022 standards is not to be a single whole standard but a modelling methodology to capture in a syntax-independent way financial business areas, business transactions and associated message flows and a central dictionary of business items used in financial communications. It means that two organisations using ISO 20022 but with different versions or a subset of messages could not be necessarily able to communicate together under a full STP mode.

Despite the challenges for the migration to a newer standard, there are currently some 200 initiatives around the world. The majority of those are driven by market infrastructures, related primarily to payments and securities, which require their participants to communicate with them using exclusively the ISO 20022 standard. Europe leads the field in adoption of ISO 20022 thanks to SEPA and T2S.

One of the issues raised by the publication of new standards is that industry players do not all migrate together at the same time to the new standard. Each player decides when it will start receiving or sending messages in the newer standard format. Some players, for example market infrastructures, may decide that they will only agree to receive and to send messages in the newer format. A good example of this is the T2S platform, developed by the ECB, which only sends and receives messages formatted in line with the ISO 20022 standard.

The coexistence of different standards forces industry players, and in particular intermediaries, to make a translation/conversion of messages from one format to another. Such translation/ conversion could be the source of errors or delays in the processing of a transaction (for example when some mandatory information is missing in the received message – formatted in the old standard – and required in the message sent – formatted in the new standard). As a result, straight through processing levels are impacted, and operational risk and processing costs are increased.

Experience has shown that financial organisations often only implement change when there is a compelling event or an overriding commercial or economic interest.

The level of competition plays an important role here. An institution will be reluctant to impose on its clients the migration to a newer format, even if this new format will increase efficiency and level of STP, if competitors do not impose the same. Indeed such imposition may induce clients to switch to a competitor. There is a clear correlation between the level of competition and the speed at which an industry migrates to more efficient standards. The level of competition among financial intermediaries is high while it is typically lower among some infrastructures. When this is observed, intervention by the public authorities may be needed to create the compelling event that will trigger the migration of the entire industry and bring it to a higher level of efficiency.

For most of the past decade or so, since ISO 20022 was first launched, no such compelling event occurred. The SEPA (Single European Payments Area) Regulation[22] , details, among other things, the use of the ISO 20022 message standards. This was the first such event as it imposed an end-date

[22] Regulation (EU) No 260/2012, adopted in February 2012.

for compliance with the provisions of the Regulation and, even then, many market actors waited until the very last moment before implementing the required ISO 20022 message standards. With many payment infrastructures migrating to ISO 20022 and real-time payments largely also implementing it, the payment industry has certainly reached a tipping point. In the securities industry, the major compelling event was the launch of T2S. In the case of T2S, the central securities depositories (CSDs), clients of T2S, and the directly connected participants (DCPs) exchange messages with the T2S platform exclusively in ISO 20022 standard formats. However, CSDs' clients or DCPs' clients often continue to send their messages in ISO 15022 standard formats, forcing CSDs and DCPs to translate them in ISO 20022 format in order to convey these messages to T2S.

Prior to the SEPA Regulation, the payment industry had been slow in migrating to adopt ISO 20022 because there was no compelling event and because market players could not find compelling economic interest to make the required technology investment to migrate to the new standard. With the SEPA Regulation, the EU authorities did recognise the benefits of migrating the entire EU payment industry to common message standards for payments in euro and decided to create the required compelling event that triggered the move by imposing a date by when all payment messages for payments in euro in the EU payment area would follow the ISO 20022 message standards.

1.2. Message standards in the derivatives markets and collateral management

At the time the two Giovannini Reports were written, derivative markets, securities finance activities and collateral management were not as developed as they are today. As a result, the focus was put on the standardisation of messages in the cash securities markets. This has changed. The size of derivative markets, securities finance activities and collateral management are comparable with cash securities markets albeit with different levels of complexity.

Because of their specificities, derivative markets and securities financing transactions (repo, securities lending) are not always covered by the protocols and standards used in the cash securities markets neither in terms of data content nor of message requirements. Despite standardisation efforts by the industry, (e.g. ISDA FpML), there remain large differences in information messaging standards used by derivative trading, clearing, and settlement providers. Non-harmonised messaging standards are also considered an important barrier to a further automation of the collateral management process[23]. One additional element to be taken into account is that derivative markets are more global.

Following issues with data content quality in messaging and lack of comparability of data resulting therefrom, the European regulatory authorities are increasingly engaged in the standardisation of certain data (e.g. Identifiers ISIN, LEI) and reporting messages (e.g. ISO 20022 messages for MiFID2/MiFIR and EMIR Reporting). Provided such standards are appropriate for the desired outcome, and provided that there is no other existing standard fit for purpose and already in place, this regulatory "nudging" towards use of ISO-based standards may help the industry to standardise other flows of other reference and market data, the exchange of which is currently often inhibited

[23] In this context, it is worth noting that the ECB's contact group for euro securities infrastructures (COGESI) has worked on collateral related messaging. This work was part of the broader COGESI work on the harmonisation of collateral management activities. More concretely, the relevant work stream on collateral messaging analysed the current collateral messaging 'ecosystem' and suggested ways towards a more consistent and harmonised (global) messaging standards which can drive efficiency in collateral management processing. Following the recent restructuring of the ECB's advisory group structure in relation to financial markets infrastructures, this important work has now been taken up by the newly established Advisory Group on Market Infrastructure for Securities and Collateral (AMI-SeCo).

by proprietary standards and licence requirements. However, where this applies to global markets (e.g. OTC derivatives) it is important that any European initiatives are harmonised at a global level. In the area of OTC derivatives CPMI and IOSCO are coordinating work on the international level. Furthermore, it is imperative that the design and development of any such standards is done in close collaboration with the relevant industry participants to ensure that the standards are appropriate for the full suite of use cases for which they may be applicable, avoiding a proliferation of essentially duplicative standards.

1.3. Regulatory reporting

Since the financial crisis of 2008, guided by the direction set by the G20, authorities have significantly increased the requirements of financial transactions reporting either to central repositories, or to central banks or to NCAs. With regard to the lack of standardisation in the field of regulatory reporting, EPTF has identified a specific barrier (EPTF Barrier 6) to address it. As a result, this section does not cover these specific issues.

It is worth noting here that large scale, near-time reporting of transaction-level data is currently required (OTC derivatives under EMIR, securities under MiFID) or under development (on Securities Financing Transactions). For effective reporting under EMIR, experience shows that the very large data flows demand stringent data standardisation. In practice, it would be helpful if data standards used for reporting could be the same as those used for other industry processes, which have a higher degree of automation, yielding lower costs of reporting, better quality of reported data, and higher effectiveness of the public sector missions served by such reporting. That logic would strongly demonstrate alignment of interests between industry and the public sector.

A further example, although not commonly considered to be "regulatory" reporting, is FATCA reporting. The US Tax authorities, with FATCA, are imposing to the entire world an extraterritorial reporting obligation. Under FATCA, all fund managers in the world must report to the US IRS information related to US investors who have invested in non-US funds. Fiscal authorities in many countries, and in Europe in particular, have signed an agreement with the US Tax authorities (namely the IRS) to collect the information locally and to send it to the IRS. Fund managers send the information to their local authorities who collect them, aggregate them and send them to IRS. The format to be used to report to the IRS is standardized. However, local fiscal authorities collect the data locally in different formats. This inconsistent situation imposes additional costs on fund managers and intermediaries, if they are active in more than one country. A large EU fund manager, active in several EU countries, must provide FATCA information for French funds to French authorities in a format defined by French Tax authorities, for their Luxembourg funds to Luxembourg authorities in a format defined by the Luxembourg authorities, etc.

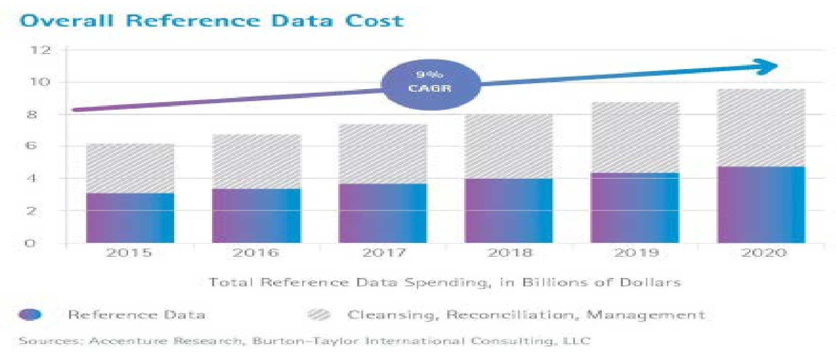
In sum, the post trade sector has collectively created a developed market financial system over many decades that has too much latency, too many hand-offs, too many players moving data back and forth, too many reconciliations being processed. It is important that the industry remakes or transforms itself to take the latency and delays out of all these processes.

2. Consequences of the Barrier

The use of non-standard identifiers and associated reference data in issuance, trading, clearing, settlement, asset servicing and reporting of financial instruments and contracts upsets automated

processes, since transactions cannot be processed in a straight through manner without prior harmonisation and mapping of various identifiers and associated reference data. Accenture[24] estimates that for each dollar spent on reference data input, another two dollars are spent in cleansing, reconciliation and IT. In other words, the real cost of reference data is roughly three times the banks' cost of acquisition, and the situation is getting worse. Accenture gives the overall cost of procurement and of harmonising and mapping of reference data to globally amount to over USD 6 billion as the same data needs to be checked, reviewed, scrubbed and mapped at each financial services firm again and again.

Figure 5: Cost of reference data



Source: Accenture Research Burton-Taylor International Consulting LLC.

In addition to the issue of data standardisation described above, the issue of harmonisation of messaging format remains. The two issues are connected but not identical. Similar to the securities space, the prevalence of proprietary systems and standards in the derivatives, securities finance and EU regulatory reporting space imposes substantial front-, middle- and back-office costs on investors/intermediaries and reporting entities who have to link to different systems. Entities which need to link to multiple regulatory and private proprietary systems face higher cost in terms of investment required to link to and maintain these interfaces[25], when compared with the cost of

[24] https://www.accenture.com/t20151202T165846__w__/us-en/_acnmedia/Accenture/next-gen/top-ten-challenges/challenge3/pdfs/Accenture-2016-Top-10-Challenges-03-Reference-Data.pdf - See also: "Feedback from the market suggests there are many elements of data management costs. Visible costs, such as licence-fees, increase in line with use and are normally predictable. But rising external data licensing costs have often diverted attention from the escalating internal challenge of getting data fit for purpose to suit specific business processes, such as portfolio management, risk management or performance measurement. Across the industry and within all firms, many more people perform data management tasks than those in data management teams. Often, heavy costs begin to accrue once the data is on board. This is especially true for specialist data types, such as index data and benchmarks that are complex and difficult to manage. Such costs relate as much to governance and management of the data as to data validation and quality assurance and can add up to a multiple of the visible data costs. The above costs are confirmed by an independent study (Cutter Associates, The True Cost of Market Data: Operational Impacts, June 2014) - http://www.internationalfinancemagazine.com/article/Real-cost-of-data-management.html

[25] Historically, client accounts, trades capture and market data was stored in different databases. The new EU reporting requirements will require all this data to be merged and reported together – forcing a rethink of the infrastructure that holds this data. What's more, the pulling together of all this data presents a risk in itself – data being fed from different systems and locations could increase the risk of system outages. Firms will have to ensure that their systems are robust enough to avoid any seismic failures. The arrival of more and more regulation means that firms will have to invest in data quality to ensure that all regulatory requirements are met. The regulators have already made it clear that firms are responsible for the quality of their own data and

using standardised communication mechanisms. In many cases they are also faced with a greater level of manual processing and conversion of information, which lead to a higher risk of errors[26]. Such differences also make straight through processing more difficult or even unattainable across systems. This is also true in the regulatory reporting space where, because of the lack of granular standards, securities transaction reporting under MiFID[27] and derivatives transaction reporting under EMIR cannot be easily aggregated and analysed by a single NCA or ESA.

3. Proposed way forward

3.1. Basic principles for elimination of the Barrier

The objective is that when information enters the post-trade world, it should enter digitally in order to feed back standardised data to users faster, at best in real-time. Going forward, the industry should be able to take only a standardised digital record and pass it through the system where it should come out the other side of the process without human touch. The effect will be lower cost, lower risk and, perhaps most importantly, reduction of information gaps. If the post trade sector makes the information available in real-time to users it will enable better investment management and risk management processes on their side and it will improve their ability to generate returns. Moreover, improved standardisation could improve returns further by reducing the burden caused by granular, near-time regulatory reporting as report generation could be automated, straight from the operational system.

To enable "Big Data", blockchain[28], data analytics, data quality, data ownership and core data (and lineage) need to be more defined than today. Also, given the divergent data landscape in post-trade ranging from regulatory mandates, to proprietary and open standards, in areas where it is not possible to get all post trade ecosystems to work in the same way only ("full harmonisation") the focus needs naturally to allow the different ecosystems to work together ("interoperability").

As a common basis, identifiers of the building blocks of a transaction should be standardised, or at least harmonised, across sectors. The EPTF supports the use of appropriate ISO standards such as CFI[29], ISIN[30] and LEI[31] or accepted industry standards. The use of non-standard identifiers (and associated reference data) as the basis of trading, clearing, settlement, and reporting of financial

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must make sure that any reporting is both complete and accurate. Failure to comply will lead to even more misreporting and ultimately, more fines. http://axiscorporate.com/uk/cleaning-reference-data-make-usable/

[26] In 2011, data costs accounted for about USD 333 billion, roughly 83% of the USD 400 billion spent on technology globally by the sector. Using inaccurate reference data leads to failed trades and can cost firms millions of dollars in lost revenue and financial liabilities. It can also lead to misrepresented corporate actions, high reconciliation costs, reduced efficiency, adverse effects on pre-transaction risk assessment and increased costs of repairing failed trades. https://www.cognizant.com/InsightsWhitepapers/Reference-Data-Management-The-Case-for-a-Utility-Model.pdf

[27] Under the proposed technical standards under MIFID 2, the level of granularity will be reinforced.

[28] Even for initiatives like blockchain, it is key that common standards are defined. Re-use of ISO 20022 methodology for defining such standards would be ideal.

[29] Classification of financial instrument (CFI) Code is used to define and describe financial instruments as a uniform set of codes for all market participants.

[30] The International Securities Identification Number (ISIN) is the globally recognised, ISO-developed standard for instrument identification. Designed to uniquely identify financial instruments by key characteristics, the standard covers equities, debt, derivatives and other commonly issued and traded instruments.

[31] The Global Legal Entity Identifier (LEI) System is designed to uniquely and unambiguously identify participants in financial transactions. https://www.gleif.org/en/lei-system/gleif-management-of-the-global-lei-system

instruments and contracts should be avoided as much as possible. Regulatory nudging like requiring use of LEI in all EU regulatory reporting to NCAs and central banks may, in the medium term, help the industry to reach the point of using the standard for all business processes requiring identification of legal entities. Likewise, the use of ISINs (or another globally consistent standard product identifier) and CFI (and UPI/UTI for derivatives), standardised identification of financial instruments and contracts, and well-defined reference data can be pushed forward in all business applications across the value chain. In the very long term the G20-supported Legal Entity Identifier could morph into a Financial Object Identifier with all associated reference data, covering entities and their relationships, all financial instruments and contracts, described in standards-based representation and language.

Market participants and regulators (e.g. by expanding existing EU, ECB and ESMA data standard initiatives) need to work together to make the financial service industry and regulators alike change their data culture, shifting it to the kind of more machine-driven data practices that enable other industries to make full use of technology for productivity and risk control. Important initiatives, such as the T2S AMI-SeCo work in relation to collateral management-related messaging, have already been established and should be supported.

3.1.1. Cash securities transactions

ISO 20022 has a modelling methodology to capture in an independent way financial business areas, transactions and associated message flows and a central dictionary of business items used in financial communications. This flexible framework allows communities of users and message development organisations to define message sets according to an internationally agreed approach. The standard seems to be able to support under one umbrella various data dialects and standards such as FIX protocol or FPML.

As described above, moving messaging in cash securities markets from ISO 15022 to ISO 20022 messages depends either on a compelling event or overriding commercial or economic interests. The EU authorities should create a compelling event that will accelerate the migration to ISO 20022 message standards. In implementing this recommendation, due regard should be had to the different interests of (and relevant incentives for) different classes of market participant. The SEPA experience shows that the attractiveness of migration to ISO 20022 could be very low for the client/buy-side/investor and small-intermediary constituencies. Accordingly, the legislative instrument requiring a switch-over to ISO 20022 should consider carefully all of the following factors in respect of **each affected community** (infrastructures, their participants, other intermediaries, their clients, and end-investors): the **timing** of migration for the community, the **cost-benefit equation** of the switch, the **incentives available**, and the positive impact of a possible **network effect** as momentum builds when many market users have already implemented the change.

3.1.2. Derivatives

In the short term, the pre-trade availability of a globally agreed standardised set of reference data attached to appropriate identifiers[32] would be a huge step forward for the (OTC) derivative markets. This would enable automation of regulatory reporting (under MiFIR) and could also provide the necessary reference data to drive efficiency in trading, clearing, settlement and

[32] Such as the (OTC) ISIN provided by the new ANNA Derivative Service Bureau (DSB).

collateral management[33]. This move to automation based on a widely-accepted international identifier and associated reference data should be without any usage restrictions arising out of intellectual property rights (as is the case with other identifiers).

It is the responsibility of the industry to decide which standard should be used in the derivative space, and to ensure alternatives are considered or rejected on merit and suitability for the suite of potential use cases, particularly in light of rapidly evolving industry and technology.

Moving transaction and settlement messaging in OTC derivatives to a single standard, e.g. FpML, depends essentially either on a compelling event or overriding commercial or economic interests. OTC derivative markets are global, so EU authorities alone are not in a position to impose harmonisation for the whole world. EU authorities can, however, play an active role in supporting a move to automation of (OTC) derivatives based on standards by supporting definition and use of common standardised data sets for trading, settlement, and transaction reporting. This should include an objective assessment of the suitability of the work currently being undertaken by the ANNA ISIN DSB and the CPMI/IOSCO as well as work on UPI, UTI and "other derivative data" efforts. Re-use and innovation of already existing formats and standards should be the guiding principle.

3.1.3. Reporting

Wherever EU regulatory transaction reporting requirements mandate the use of ISO identifiers (CFI, ISIN, LEI) or message standards (ISO 20022[34]) as described above, the detailed definition of reporting protocols and market practices should be a joint effort between industry and regulators. Based on the successful example of the Securities Market Practice Group (SMPG) for the development and documentation of best practices relating to ISO 20022 data and message standards, a (Regulatory) Reporting Market Practice Group (RMPG) should be established involving all market participants and regulators in the trade/transaction reporting cycle of securities (MiFID), derivatives (EMIR) and securities finance transactions (SFTR) based primarily on ISO standards for data and messaging. The RMPG would facilitate the establishment of reporting market practice within the limits set by applicable regulation. Such a group should closely align itself with any appropriate global initiative such as those promulgated by CPMI and IOSCO.

For the first issue (**lack of standardised format**), the trade repositories in Europe should work together to establish EU formats for trade reporting. ESMA could play a role here because they approve trade repositories. They could monitor the convergence to EU formats for trade reporting once this is established and/or could add the adoption of the EU format for trade reporting as one of the conditions to approve a trade repository.

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[33] ISO 15022 and ISO 20022, do currently not address the full message and automation needs of OTC derivatives. The fully established and more granular FpML taxonomy could therefore be used as the basis of an expanded ISIN reference data model. ISO and ANNA should work closely with ISDA to align FpML taxonomy with the CFI and ISO 20022 dictionary and data model. This may help to ease the implementation burden for all players, independent of their size, going forward and will also insure that larger industry player's investment in FpML implementation can be leveraged going forward.

[34] The use of the ISO 20022 methodology and central repository is a step in the right direction to increase standardisation. Enforcing the use of a particular syntax such as the ISO 20022 XML for regulatory reporting - when this syntax still needs to be developed and other syntaxes are available and tested in the market-place - will not create the hoped for benefits.

Similarly, EU regulators should work together to establish EU standards for regulatory reporting as opposed to the current situation where each domestic regulator works in isolation and creates its own format.

This standardisation will have massive benefits for the entire finance industry.

For the second issue (**inconsistent use of data standards for data fields**), the Commission and/or ESMA could play an important role in making sure that internationally recognised standards are mandated when a standard exists (ISIN, LEI, CFI, etc.), or facilitating the creation of new standards where they do not exist.

3.2. Who should act to address the Barrier?

All ESAs and Member State regulators, in supporting and embracing the new approach to a data culture, standardisation and the establishment of a RMPG.

The European Commission, in respect of the regulatory approach to adoption of ISO 20022 in relation to securities transactions, and assessing international work on data automation in relation to OTC derivatives.

The industry, in respect of all other recommendations described above.

3.3. By when that action should be taken?

All steps outlined above should be taken as soon as possible.

The programme for *implementation* of a regulatory approach to adopting ISO 20022 should reflect the specificities of the various interested groups, as explained above.

3.4. Priority of the Barrier

High.

EPTF BARRIER 3: Lack of harmonisation and standardisation of ETF processes

New Barrier

Description of the issue: growth rate of Exchange Traded Funds (ETFs) / Products (ETPs) is restrained by legal obstacles and a high degree of fragmentation, in particular in the post trade space, within Europe.

Priority: Medium.

Summary of proposed action: implementation of best market practices, standards and recommendations. Where relevant, domestic legal obstacles to fluid cross-border movements of ETFs / ETPs should be removed.

Responsibility: private sector (industry to implement best market practices) / public sector (European Commission to take the lead for the removal of specific domestic legal hurdles).

1. Description of the Barrier

Exchange Traded Fund (ETFs) and more generally Exchange Traded Products (ETPs) are globally among the fastest growing investment instruments. Yet their growth rate in Europe is restrained by legal obstacles and by a high degree of fragmentation, in particular in the post trade space[35].

The main observed problem is a legal issue related to the settlement of Irish ETFs in Germany, though this example shows that ETFs are poorly-integrated into the present EU legal framework for securities settlement.

The specific problem regarding Irish ETFs is rooted in different substantive securities legal provisions on securities in the EU Member States. If a German investor, who uses Clearstream Banking Frankfurt (CBF) as Investor CSD to hold foreign investments, wishes to invest in an Irish ETF, the following difficulty arises:

- ETFs domiciled in Ireland are settled in Euroclear UK & Ireland (EUI), which is the CSD serving both Ireland and the UK. However, EUI does not perform a 'notary function' for the ETFs as this function is performed by the ETF registrars.
- For the purposes of the German Safe Custody Act (Depotgesetz[36]), a security recognised for settlement in CBF must be issued into a CSD which does perform the notary function.

Therefore Irish ETFs are not directly admitted for settlement in CBF because they cannot be recognised as securities under German law. To overcome this difficulty, ETFs issued into EUI that need to reach CBF as Investor CSD are "re-certified" under a German vehicle that carries a German ISIN. This "re-certification" provides that the German investors benefit from the Collective Safe Custody regime under the Depotgesetz. This leads to a situation where the same ETF carries different ISINs (IE and DE) depending on the market where it is traded or settled.

An industry study gives more detail on the problem[37].

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[35] For a more detailed description of issues see Annex 3, Section 4, chapter 4.2.5. ETF.

[36] Gesetz über die Verwahrung und Anschaffung von Wertpapieren

[37] http://www.afme.eu/globalassets/downloads/consultation-responses/afme-ptd-etf-document-9-november-2016.pdf; see especially pages 10 onwards.

2. Consequences of the Barrier

In the **primary market,** variances in issuance structure and the fragmentation of the European post trade environment place dampen the ETF market within Europe and act as an impediment to delivering an efficient and liquid market.

In the **secondary market,** fragmentation of the European ETF industry in respect of products cross-listed across various European markets arises because market participants are required to deal with settlement rules that differ significantly across markets. Identical ETFs ought to be treated as fungible, but in practice fungibility is impaired because of differing national approaches. Market participants have to manage ETFs inventory on a line by line basis and process dozens of realignments between CSDs despite the financial product being the same. This process is expensive, operationally complex and lengthy as in certain cases it might take up to three days to move ETF shares between two European CSDs. T2S will bring improved efficiency in some cases, but not all European markets are part of T2S. Therefore, it is expected that market participants will continue to experience delays in moving shares between European CSDs.

The CSDR is intended to create a harmonised EU regime for settlement. Unfortunately ETFs fit poorly into the CSDR structure. Further work is needed to ensure that ETFs benefit from equivalent improvements to those enjoyed by other types of financial instrument under the CSDR, in order to realise fully the benefits of ETFs in a Capital Markets Union.

3. Proposed way forward

The European Commission should ensure that ETFs are appropriately integrated into the CSDR framework for cross-border (and cross-infrastructure) settlement, taking account of the product specificities of ETFs, the importance of investor protection, the notary function and the need for regulation of persons carrying out the notary function in relation to ETFs.

Industry should implement the best market practices, standards, and recommendations developed and agreed by the Joint Working Group ETF Processing[38].

As regards the specific problem of Irish ETFs and German investors, either or both of the following steps would resolve the issue:

- The Depotgesetz in Germany should be modified to allow Collective Safe Custody status to ETFs held through CSD links, even though the 'notary function' is not carried out by the Issuer CSD itself, but by the ETF Registrar.
- Euroclear UK & Ireland (EUI) should consider the inclusion of the notary function in their services.

[38] http://www.afme.eu/globalassets/downloads/consultation-responses/afme-ptd-etf-document-9-november-2016.pdf; http://www.afme.eu/globalassets/downloads/consultation-responses/afme-ptd-market-standards-for-corporate-actions-processing-for-etfs-2016.pdf

5. Structural Barriers

Introduction

While the preceding chapter focuses on operational barriers in regard of clearly defined individual post trade services such as the processing of corporate actions, this chapter deals with structural issues of a cross functional nature in post trade.

In the context of the EPTF's mission to support more efficient and resilient post-trade systems, the mandate of the EPTF not only includes the assessment of the extent to which the Giovannini Barriers have been removed or remain in the EU, but also the determination of new barriers and proposals for solutions.

With the exception of EPTF Barrier 7, which comprises the redefined Giovannini Barriers 8 and 9 on practical impediments to cross-border issuance and national restrictions on the location of securities, all structural barriers in this chapter are new barriers:

- EPTF Barrier 4: Inconsistent application of asset segregation rules for securities accounts;
- EPTF Barrier 5: Lack of harmonisation of registration rules and shareholder identification processes;
- EPTF Barrier 6: Complexity of post-trade reporting structure;
- EPTF Barrier 7: Unresolved ISIN issues (formerly Giovannini Barriers 8 & 9, redefined and combined).

EPTF BARRIER 4: Inconsistent application of asset segregation rules for securities accounts

New Barrier

Description of the issue: Different regulatory requirements regarding segregation (by type of client and by type of instrument) across Members States and between different EU regulations create inconsistencies and unnecessary costs and increased risks, without corresponding benefits to investors in terms of providing additional protection in the absence of harmonised insolvency laws.

Priority: High.

Summary of proposed action: The approach to asset segregation should be made consistent across all EU legislation, for all markets and asset classes, so as to implement two principles:

- Client assets held by an intermediary should be segregated from proprietary assets in an insolvency-proof manner.
- Account structures should be open to investor choice. Use of asset segregation to achieve a policy objective should generally be optional, and only required if it is demonstrated that it will achieve the objective and no better alternative is available.

Amendments should be made to EU and Member State legislation, as necessary, to conform to these principles.

Responsibility: European Commission, Member States.

1. Description of the Barrier

In the aftermath of the financial crisis, and in particular as a result of the root-cause analyses following the Madoff[39] and Lehman[40] affairs, a number of regulatory and legislative initiatives were targeted at asset segregation to effect investor protection, specifically to identify assets in the case of the insolvency of a service provider in the intermediated chain of custody.

Wide range of legislative approaches

EU Member states generally ensure investor protection by segregation of proprietary assets from client assets or equivalent measures ensuring a comparable level of protection both under national laws. Various EU laws are directed at the same end, such as MiFID Implementing Directive[41], EMIR[42] and CSDR[43].

However, there are differences of approach between EU legal acts. On the one hand:

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[39] http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2012/swd_2012_0386_en.pdf, p. 11 "The Madoff fraud has demonstrated that investors' claims for compensation for assets lost in custody are not addressed in consistent ways in different Member States."
[40] http://ec.europa.eu/finance/consultations/2010/mifid/docs/consultation_paper_en.pdf, p. 70 "Recent cases where ownership of assets has been in dispute as a result of poor rules or practices underline the importance to have strong requirements in this area. [for instance the Lehman Brothers case]"
[41] Commission Directive 2006/73/EC, art 16.
[42] Article 39.
[43] Article 38.

- MiFID 2[44] requires that an investment firm, when holding financial instruments belonging to clients, makes adequate arrangements in order to safeguard the clients' ownership rights, especially in the event of the investment firm's insolvency, and to prevent the use of a client's financial instruments on own account without the client's express consent (Article 16(8))[45].

By contrast, other EU legal acts mandate supplementary degrees of segregation for some categories of end investor:

- With regard to alternative investment funds, the AIFMD[46] requires the fund depositary to hold an AIF's assets in a segregated account (Article 21(8)(a)(ii)). The segregation requirement applies not only to the depositary but also to its "delegates" in the custody chain (Article 21(11)(d)(iii))[47].
- UCITS V[48] has similar segregation requirements to AIFMD. Article 22a(3)(e) UCITS V requires that a depositary should hold the UCITS' assets in a segregated account. The segregation requirement applies not only to the depositary but also to its "delegates" in the custody chain. Article 22(8) UCITS V requires Member States to ensure that in the event of insolvency of the depositary and/or of any delegate or sub-delegate, the assets of a UCITS held in custody are unavailable for distribution among, or realisation for the benefit of, creditors of such a depositary and/or such a third party. Therefore, UCITS V requires Member States to modify their insolvency laws in order to ensure the protection of the UCITS assets[49].

A further development, specifically in relation to AIFMD and UCITS V, is a forthcoming clarification by ESMA following its recent "Call for Evidence on Asset Segregation and Custody Service" on this topic[50]. Open issues exist, in particular, around securities held in Investor CSDs, and whether this constitutes a delegation of custody functions by depositaries under AIFMD and UCITS V.

Finally, it may be noted that EMIR (Art. 39 – Segregation and Portability) and CSDR (Art. 38 - Protection of securities of participants and those of their clients) require market infrastructures and service providers to offer omnibus- and individually-segregated accounts to their respective clients; but in both cases, it is a matter for investor choice which type of segregation is selected, based upon information which must be provided about cost and risk.

Use of omnibus accounts

Today's market practice generally allows for a choice between omnibus and segregated securities account structures, while obliging intermediaries to ensure effective separation of clients' assets from proprietary assets. Omnibus account structures are used by Investor CSDs to accommodate CSDR objectives of efficient cross-CSD settlement and efficient T2S cross-CSD settlement[51]. They

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[44] Directive 2014/65/EU.
[45] See also Commission Delegated Directive of 7.4.2016, supplementing MiFID 2 with regard to safeguarding of financial instruments and funds belonging to clients, product governance obligations and the rules applicable to the provision or reception of fees, commissions or any monetary or non-monetary benefits, C(2016) 2031 final, art 2.
[46] Directive 2011/61/EU.
[47] See also Commission Delegated Regulation 231/2013.
[48] Directive 2009/65/EC.
[49] See also article 16(1)(a) of the Commission Delegated Regulation (EU) 2016/438.
[50] https://www.esma.europa.eu/press-news/consultations/call-evidence-asset-segregation
[51] "The TFAX recommended that account segregation is minimised, in particular at the higher levels of the settlement chain (e.g. at issuer CSD level). Account segregation that needs to be propagated through the settlement chain should be avoided. If account segregation is required, this should be implemented at the

are required to facilitate (third party) collateral arrangements, as well as repo and securities lending programmes. Furthermore, they are required to enable investments in certain non-EU markets which do not allow segregation at all levels in the value chain (e.g. DTCC Membership in the USA[52], or Hong Kong[53]). Omnibus accounts reduce the number of accounts: it is estimated that millions of additional accounts, and millions of additional settlement operations, would be required in a fully segregated market environment[54].

In some Nordic markets, omnibus accounts are not typically used. A legal requirement for individually segregated investor accounts at CSD level only exists in the EEA in Finland and Norway. However, in these countries omnibus accounts are allowed for foreign custodians and CSDs in order that foreign investors may have access to the local market. In Sweden and Denmark there is extensive use of individually-segregated accounts, but investors can freely choose between individually-segregated and omnibus accounts.

Notwithstanding the advantages of omnibus account arrangements, the trend in legislative and regulatory developments has been in favour of increasing the use of individually-segregated accounts throughout the custody chain. A number of grounds for such a policy can be identified:

- The first is the potential for increased investor protection, i.e. increased asset safety and decreased potential for loss of securities, combined with facilitation of the prompt return of securities in case of losses (such as the Madoff fraud). These grounds have been challenged in surveys performed by various trade associations, e.g. studies by AFME[55] and ECSDA[56], which have highlighted that in the majority of cases no higher protection is provided by account segregation in an insolvency situation (so long as client assets are segregated from proprietary assets). There is still insufficient evidence that these grounds are sound, and this area would benefit from further study. This has created uncertainty among regulators as to the approach to take, and whether further asset segregation should be mandated throughout the intermediary chain, across borders and across different regulations.

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lowest possible level of the settlement chain." Quoted from p. 7 of T2S CSD Account Segregation Rules https://www.ecb.europa.eu/paym/t2s/progress/pdf/hsg/mtg9/20130521_CSD_account_segregation_rules.pdf

[52] DTC rules by-laws Rule 2&3 http://www.dtcc.com/~/media/Files/Downloads/legal/rules/dtc_rules.pdf

[53] See AGC response to ESMA's Call for Evidence, p. 55

[54] Data on the number of securities accounts maintained at CSD level can be found in the ECSDA database at http://ecsda.eu/facts/2015 database. For example, ATHEXCSD in Greece maintains more than 1.6 million accounts, Euroclear Sweden and VP Securities in Denmark each maintain respectively more than 3 million accounts. In addition, the Turkish market may be quoted as an example for a fully segregated environment: in 2015 more than 45 million accounts have been operated by the Turkish CSD in comparison to about 10 000 accounts in the German CSD. These fully segregated accounts would need to be maintained throughout the chain of custody (with the concomitant number of standard settlement instructions, which must be kept up to date); there are similar effects in relation to the number of settlements required between accounts at all levels throughout the chain of custody, including CSDs (example: Turkey 172 million transactions with an average value of EUR 14 150 vs. Germany 66 million transactions with an average value of EUR 1.3 million), and the subsequent potential increase in the number of settlement fails.

[55] http://www.afme.eu/globalassets/downloads/publications/afme-position-and-proposed-principles-on-asset-segregation-07.09.16.pdf, p. 8 ("Further, although we recognize further segregation may provide increased transparency on insolvency it does not necessarily shorten the time to restitute clients' assets, which is dependent on the relevant insolvency regime together with the specific nuances of each case.")

[56] In the vast majority of EU markets, the use of segregated accounts at CSD level does not affect the legal nature of investor rights on the securities. In only 7 out of 28 Member States does the use of segregated accounts at CSD level grant different or additional rights to investors (e.g. ownership rights over the securities). These markets are Bulgaria, Finland, Greece, Denmark, Estonia, Sweden and the UK. See pages 19 and 20 of the ECSDA report on "Account segregation practices at CSDs" of October 2015: http://ecsda.eu/wp-content/uploads/2015_10_13_ECSDA_Segregation_Report.pdf

- Various other grounds can also make individual segregation along the whole custody chain appear attractive. These include account segregation as a tool to process tax-related information; the potential to obtain information for up-to-date lists of shareholders from the same source; and possible solutions for various issues around ownership and registration. Whether asset segregation is the appropriate solution for these questions is considered below under the Proposed Way Forward.

The Barrier

In summary, the current EU legal and regulatory landscape on asset segregation is inconsistent between different sectors and different markets. It is difficult to understand and engenders problems of interpretation and application.

2. Consequences of the Barrier

The absence of a common European approach to asset segregation increases operational complexities, risks and related costs for market users and end-investors.

Different rules and operational approaches can apply at different levels in the chain of custody. Segregation requirements differ according to the type of client and type of instrument, between Member States[57], and between different EU regulations. All these differences create inconsistencies and give rise to unnecessary costs and increased risks. It is unclear whether those disadvantages are compensated by corresponding benefits to investors in terms of providing additional protection.

3. Proposed way forward

3.1 Possible solutions

As a fundamental principle, the way forward on asset segregation needs to accommodate business needs and the respective legal environment; a degree of flexibility will be required until a future harmonisation of European resolution and insolvency laws (as well as a certain substantive law harmonisation) allows more standardisation across Member States.

In the meantime, EU laws and regulatory practices should conform to the following principles (and where necessary, be changed accordingly):

1. **Account structures should be open to investor choice.** Use of the individually-segregated account asset segregation tool should be optional; use should only be mandatory if certain conditions are met, e.g. that the tool is effective in achieving the objectives and that no other better alternative is available.
2. **The proprietary assets of the intermediary should always be segregated from the assets of the intermediary's clients in a form that is insolvency proof**. Segregation[58] should occur at the level where the intermediary holds assets: in other words, the intermediary must ensure that the CSD (or other person with whom the intermediary holds

[57] See the four main approaches to segregation described by ECSDA in page 3 of its report of October 2015: http://ecsda.eu/wp-content/uploads/2015_10_13_ECSDA_Segregation_Report.pdf
[58] The intermediary should also keep accurate records on its own books to show exactly what it holds for each client. That is essential but it will not constitute 'segregation'.

assets) records the intermediary's proprietary assets in a different account from the intermediary's clients' assets. Furthermore, the legal effect of that distinction between accounts must be that the assets booked to the intermediary's client-assets account(s) are not available to the intermediary's creditors, in particular in the event of insolvency. If investors require individual-account segregation or segregation further along the chain of custody, this should be an option, but there should be a clear disclosure and understanding of the different risks and additional costs that will result from such segregation; European regulation, e.g. EMIR Art 39 (7) and CSDR Art 38(6), already foresees that the level of protection and the costs associated with different levels of segregation be disclosed to account holders.

Possible solutions for related issues where asset segregation has been seen as a potential solution

It was observed above that asset segregation can be seen as a solution to problems other than investor protection. These problems could, however, also be addressed in other ways.

All issues around **securities ownership** topics, and the lack of universal acknowledgement across Member States of property rights of end investors in securities should be addressed via the proposed solutions to the legal barriers (see EPTF Barriers 9 and 11).

The provision of **tax-related information** should be contained within the Commission's separate work-stream on withholding tax procedures, as assessed by the "Expert Group on barriers to free movement of capital"[59] and harmonised across Member States as part of that initiative, and may also be covered within EPTF Barrier 12 (GB11). The implementation of the automated exchange of information on fiscal matters will substitute account segregation as a means to gather tax-related information.

Shareholder identification and **shareholder registration**: Shareholder information will be addressed via the SRD Chapter 1A[60]. Registration issues and the passing of registration information should be addressed within the context of the work being done to address EPTF Barrier 5.

3.2 Who should act to address the Barrier?

European Commission, ESMA, Member States

3.3. By when should that action be taken?

ESMA is expected to finalise its approach to asset segregation in the AIFMD and UCITS space on the basis of its recent market consultation in the second half of 2017.

A review of consistency in accordance with the proposed approach to asset segregation should be started in the context of the CMU Action Plan.

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[59] See the specific section of the Report of the group dedicated to withholding tax procedures at: http://ec.europa.eu/info/files/report-commission-accelerating-capital-markets-union-addressing-national-barriers-capital-flows_en

[60] The revised Shareholders Rights Directive (SRD2) was agreed by the European Parliament and the Council in March 2017 but at the time of issue of this Report had not been published in the Official Journal of the EU. The text of SRD2 which the EPTF has used to compile this Report is document number PE-CONS 2/17 dated 23 March 2017 located at http://data.consilium.europa.eu/doc/document/PE-2-2017-INIT/en/pdf.

Amendments to EU and Member States legislation should be made in the context of regular reviews of relevant legislation.

3.4. Priority of the Barrier: High.

4. Diverging view

CSDR Art. 38 gives investors the choice to ask for segregation and European Issuers believe this choice should be mirrored in the custody chain. Asset segregation should be the end investor's choice only and that choice should be respected by all intermediaries in the whole custody chain especially to avoid the risk of wrong attribution of assets to intermediaries instead of to the specific end investor. This choice is of utmost importance as long as uncertainty about ownership of securities and the treatment of securities in insolvency situations or priority rights of certain intermediaries like CCPs exist.

In general, direct holding systems are considerably more reliable and safer for end investors and the maintaining of the relationship between issuers and end investors and can avoid most of the issues described above. Blockchain technology (or distributed ledger technology) is understood by end investors and issuers to be able to eliminate all of the issues described above. The European Union should concentrate on the fast development of this technology and concept.

EPTF BARRIER 5: Lack of harmonisation of registration and investor identification rules and processes

New Barrier

Description of the issue: Registration regimes vary widely from country to country as outlined in several fact-finding reports including those of the T2S Taskforce on shareholder transparency and of ECSDA. This diversity is not an issue at domestic level, but is a serious issue at cross-border level as it translates into increased complexity and cost where registration processes go beyond communication between issuers and investors.

Shareholder transparency practices also vary widely from country to country as outlined in the shareholder transparency report of the T2S AG and are also a serious issue at cross-border level.

Priority: High.

Summary of proposed action: Investor transparency procedures (data fields, data content, messaging standards) should be harmonised and standardised.

Where applicable, operational registration procedures should be harmonised and standardised along the harmonised framework defined for shareholder transparency and should also accommodate the specific requirements of the investment fund industry.

Responsibility: Industry (investors, issuers, intermediaries including financial market infrastructures). The basis of a technical standard has already been defined by the industry, which could be adopted in the level 2 measures of the revised SRD (Shareholder Rights Directive) as a means to enforce the implementation of the shareholder transparency standard.

The agreed harmonised and standardised operational registration procedures should be adopted by Member States in their registration regimes; Member States should also review and where appropriate amend registration requirements which go beyond necessary requirements for communication between issuers and investors in matters which affect investors' rights.

Responsibility: Industry, European Commission and Member States.

1. Description of the Barrier

A) Registration

In most Member States of the EU, it is a requirement of national law that, in the case of registered securities, investors (shareholders and also sometimes bond holders) have to forward their data to the issuer, in most cases when they acquire or sell securities, sometimes on special occasions. The issuers are required to maintain or update a register, which contains the names and other details relating to the persons who own the shares or debt; depending on the Member State these owners refer to either legal owners (for example nominees) or the end investors/beneficial owners[61].

The registration process described above was designed to achieve several objectives:

a) To record the transfer of securities between buyers and sellers.

[61] Member States should adopt a single approach to who is a 'shareholder', based on the principle that a person who paid for a share is the shareholder (with two caveats for the avoidance of doubt: funds belong to shareholders (not their own investors) and intermediaries are not shareholders).

b) To allow companies issuing shares to have access to complete and accurate information on who their shareholders (and sometimes bond holders) are.

c) In some instance, to allow companies to have a meaningful relationship with their investors. As an example, companies may entice shareholders to be on their register by inviting them to events where the company products and strategy is explained.

d) To allow companies to control their shareholder base, by being able to refuse registration of shares acquired by certain purchasers.

e) To allow companies to attribute bonus rights to certain shareholders based on the length of time the shares have been held.

The EPTF understands and acknowledges these objectives of shareholder registration. The barrier observed relates to the rules and processes which are in place to achieve registration, which differ between Member States and cause friction in a cross-border investment scenario.

Noteworthy market developments concerning these areas are as follows.

As described in Annex 3, the financial industry has evolved. Securities are more and more immobilised or dematerialised and commonly recorded on the books of central securities depositories (CSDs) (and reconciled with the register of the issuer in those countries where this is applicable). Securities transactions among the parties to trades settle by book-entry transfers on the books of CSDs. Transactions settling in CSDs and confirmed by them are considered as final and irrevocable. While access to securities settlement systems operated by the CSDs is now largely free from nationally imposed obstacles, achieving settlement may (but in some Member States need not) involve a process of updating the shareholders' register. However, this update process is no longer a precondition to achieve finality of transfers (i.e. securities and cash) on the books of the CSD.

Regulation and market practices regarding registration vary widely from country to country. There are efficient local/national solutions for local investor registration and also investor identification in most markets of Europe, but cross-border registration of securities holders is typically more challenging. Indeed, what information is required to be recorded in the register, and how and when the register must be updated, differs between Member States. ECSDA studied technical aspects of registration requirements for securities holders in Europe, and issued a fact-finding report in July 2016[62].

Various reasons for the differences in the processes for maintaining a register may be cited: different corporate laws in EU Member States, different civil laws, different data protection laws, different decisions by the owners of companies on which information is helpful or needed in order to have a meaningful relationship between the owners themselves and with the company, in particular because the company wishes to know who its owners are (e.g. for corporate actions, and effective exercise of governance and voting rights), the need for the end investors to have a definitive legal record of their ownership, legal requirements and regulatory purposes such as proof of nationality in case of air carriers. However, the challenge posed by national specificities concerning registration relates to the format and content of data, which must flow to the issuer (and its registrar, where separate) from the end investor, often through the chain of intermediaries.

Registration requirements that go beyond investor identification

[62] See ECSDA report on the registration of securities holders (2016): http://ecsda.eu/archives/5091

As described in the T2S and the ECSDA reports, in several Member States the registration requirements go beyond investor identification.

The EPTF has discussed the national specificities of registration regimes in various Member States, highlighting that they create impediments to cross-border investments, even though the regime works satisfactorily at a domestic level. It was agreed that specific issues arise, causing operational complexity and cost for cross-border investment, such as in Spain and France.

Specificities of the investment fund industry

The actor that calculates and pays commissions needs to be provided with the information needed to make the payment and advise the distributor accordingly in a timely fashion. Funds need confirmed distributor holdings and transaction information to pay (recurring) commissions correctly to intermediaries in the custody chain. EFAMA has made recommendations[63] on both positions as well as transaction based reporting, e.g. in France "earmarking" of transactions. The agreed amended Shareholder Rights Directive does not resolve the commission payment data issue.

B) Shareholder Identification

In order reduce their investment risks, investors more and more invest outside their country of residence. Cross-border investment is a very important evolution, which is expected to continue to increase with the removal of barriers to cross-border investments. Important initiatives, such as T2S, are further contributing to the removal of barriers and making the settlement of cross-border transactions similar to the settlement of a domestic transaction. The growth of cross-border investment is raising concerns on the issuer's side as regards shareholder identification. The process to identify who their shareholders are, when the shareholders are outside of the country of the issuer, is often complex and difficult. The T2S Advisory Group (AG) decided in December 2009 to establish a task force on shareholder transparency. In March 2011, the task force issued its final report[64] with proposals to the AG for possible further action. In addition to proposing two possible technical solutions to improve the provision of shareholder information to issuers in a cross-border context, the task force identified three obstacles for the two solutions to work:

1. The lack of standardised and machine-readable formats for sending disclosure requests and receiving disclosure responses were a serious hindrance to the efficient operation of the decentralised model;
2. The lack of harmonised market practices between the various players in the holding chain obstructed the smooth operation of the disclosure process; and
3. Legal uncertainty among intermediaries as to whether they can share their clients' holding data is a significant obstacle; the revised Shareholders Right Directive (SRD2) has removed most of this uncertainty.

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[63] EFAMA report on Standardisation of Fund Processing in Europe (March 2011)
http://www.efama.org/Publications/Public/Fund_Processing_Passport/110324_EFAMA%20FPSG%20Report%20(Final%20March%202011).pdf
Chapter 6, p. 18 & ff, addresses holding reporting and transaction reporting. Chapter 7, p. 20 & ff, addresses commissions reporting.
[64] T2S task force on shareholder transparency – final report to the T2S Advisory group.
https://www.ecb.europa.eu/paym/t2s/progress/pdf/subtrans/st_final_report_110307.pdf?dc403716f023aedd5fd597fcb7d24ab2

The task force has also finalised a comprehensive market survey of shareholder transparency regimes in Europe.

The European Post Trade Group (EPTG) continued the work on this topic and a Working Group on Shareholder Identification and Registration wrote a report[65] which, starting from the findings in the report of the T2S Taskforce, focused on how all technical questions of shareholder identification, registration and the exercise of shareholder rights by the end investor could be resolved. The technical aspects of a solution comprise the contents of messages, the format of messages, the format of interfaces and open system concepts and cost questions.

The Working Group recommended that a solution to address shareholder identification and registration questions in the context of disclosure of end investors, maintaining a shareholder register and the exercise of shareholder rights should take into account:

a) The data necessary and sufficient to address shareholder identification and shareholder registration are very similar if not identical.

b) The necessary data of end investors is usually stored within the systems of at least one financial intermediary, but which intermediary holds the data depends on the structure and the market practice of the domestic market. Most commonly, for example, it is the custody bank that provides the securities account directly to the end investor. It may also be another designated financial institution or a broker.

c) The solution would be to define an EU wide harmonised set of data, limited to what is really necessary. Once this has been defined, the next step is the definition of message formats to allow automated communication of the agreed data among the players.

In relation to the flow of information from investors to companies, it should be noted that the revisions to the Shareholders Rights Directive will introduce a right for companies to obtain information from intermediaries on their "shareholders"[66]. This may help set up standards for end investor data and data formats, which could help to facilitate compliance with registration procedures. However, the revised Shareholders Rights Directive does not in itself purport to harmonise registration procedures and practices across the EU. In particular, following transposition of the revised directive, the following issues are likely to remain:

- Being a directive, there will be the danger of differential implementation between Member States.
- A further particular danger resides at Level 2 if the implementing acts expected from the Commission are not established as an EU Regulation in order to ensure uniform application of article 3 of the revised SRD[67]. If the implementing acts were established in the form of a Directive, the risk is that Member States may adopt different mechanisms (format and content rules) for the transmission of the information. If this were to come about in reality,

[65] EPTG Working Group on Shareholder Identification report: http://www.europeanissuers.eu/positions/files/view/591da562f05ba-en

[66] The revised Shareholder Rights Directive does not define who a shareholder is; it would be desirable that the term would have the meaning of an end investor as defined in the two sets of market standards for corporate actions and general meeting (see EPTF Barrier 1).

[67] http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0257+0+DOC+XML+V0//EN&language=EN

the present barrier would not only be confirmed but might become higher as what is now just national practice becomes embedded as legally binding obligation.

- Some national specificities relating to registration procedures (such as those described in the ECSDA report and the T2S Shareholder Transparency report) which do not relate to the information flow between issuer and shareholder may remain in place if the level 2 measures envisaged by the Shareholders Rights Directive do not address those aspects. The scope of the level 1 Directive is limited to shares listed on a regulated market within the EU, so that registration procedure issues, if any, concerning other types of listed and unlisted transferable securities will persist.

This barrier is closely connected to progress on EPTF Barriers 1, 12, 11 and 4, which could have an influence on the progress in dismantling this barrier.

C) Bondholder Identification

The identification of bondholders raises issues quite similar to the identification of shareholders. In the case of bearer securities in particular, market participants in the settlement chain often do not pass on information to facilitate the identification of bearer bondholders, e.g. for the purpose of convening bondholder meetings.

As the issues are broadly identical with the barrier of identifying shareholders, the solutions to the latter barrier should also be able to address the issues of identification of bondholders.

2. Consequences of the Barrier

The differences in national procedural requirements for registration of securities holdings and in investor identification requirements could give rise to complexity in a cross-border context, because investors and their intermediaries have to comply with the differing data fields and data format requirements, which may lead to additional costs and operational risk. Greater uniformity regarding data fields and data formats would help to reduce the complexity thus experienced.

Moreover, the persistence of different national requirements for registration where securities are held indirectly may be seen by CSDs as an obstacle to issuer choice, as described in article 49 of the CSDR. Indeed, in practice, CSDs find it complex and costly) to compete for issuer services where registration rules in the target market are fundamentally different from those in the home market(s) of the CSD. From an issuer´s perspective, this may not be seen as a barrier since the conditions for offering a service which complies with applicable national law are the same for all service providers in Europe. If a CSD wishes to offer a service to create or enter competition, they should be able to offer the same service as their competitors. Issuers choose their CSDs by considering whether they are equipped to comply with applicable company law and its registration requirements.

3. Proposed way forward

3.1. Possible solutions for the elimination of the Barrier

The EPTF believes that the following steps should be taken:

1. A task force of relevant market participants (investors, issuers, registrars, intermediaries, infrastructures whether acting as central register or intermediary) should be established to

analyse registration procedures and shareholder identification procedures; to harmonise, where possible, data fields, contents and formats; and to identify and define practical issues related to the technical, operational and cost aspects of registration and investor identification rules and processes. This work should be based on existing work and reports, such as the T2S Task Force and the EPTG Working Group. The proposed solution should be drafted and assessed not only within the framework of the Level 2 SRD legislation but also with a view that Member States are encouraged to follow a single EU-wide approach and avoid unnecessary diversity in transposition in areas not covered by SRD and Level 2 implementing measures.

2. The relevant constituencies (investors, issuers, registrars, intermediaries, financial market infrastructures) should agree and endorse the proposed solution.
3. Member States should (with encouragement from the Commission in the context of the Level 2 legislation) adopt industry standards as per point 2, but also review and where appropriate amend registration requirements which go beyond necessary requirements for shareholder information.
4. The EPTF also supports the inclusion in bond prospectuses of information concerning the appointment of a representative for bond holders. This is of particular importance in cases of collective engagement, such as in times of restructuring, where bond owners have difficulties in acting collectively.
5. EU Authorities will need to monitor the progress made by Member States in the review/adaptation described above.
6. EU authorities could consider establishing a unique EU identifier for investors, similar to what has been done with the LEI to identify legal entities, the ISIN for securities and the IBAN for bank account number.
7. To address the specific issue described above in the investment fund business, market players supporting investment funds should move quickly to adopt a recommended standard content, format and transmission methodology for the transmission of information as set forth in chapter 7 of the EFAMA report[68].

Registration requirements are defined either in national law or in local rules and regulations. These laws, rules or regulations will need to be observed in the proposed harmonised framework (data fields, content, messages).

3.2. Who should act to address the Barrier?

The relevant constituencies (investors, issuers, registrars, intermediaries – including infrastructures whether acting as central register or intermediary*)*, should work together to analyse registration procedures; where possible, data fields, contents and formats should be harmonised, to identify and define practical issues related to the technical aspects of registration procedures and their differences as well as the additional operational issues and cost they may cause.

[68] EFAMA report on Standardisation of Fund Processing in Europe (March 2011) http://www.efama.org/Publications/Public/Fund_Processing_Passport/110324_EFAMA%20FPSG%20Report%20(Final%20March%202011).pdf

The relevant constituencies should adopt recommended standard content, format and transmission methodology for the transmission of information as set forth in the revised SRD. This should be based on existing work and reports. This should be drafted and assessed not only within the framework of the Level 2 SRD legislation but also with a view that Member States are encouraged to follow a single EU-wide approach and avoid unnecessary diversity in transposition in areas not covered by SRD and Level 2 implementing measures.

Responsibility: Industry.

Member States should (with encouragement from the Commission in the context of the Level 2 legislation) adopt industry standards as per above, but also to review and where appropriate amend registration requirements which go beyond necessary requirements for shareholder information[69].

Responsibility: Member States, European Commission.

To address the specific issue described above in the investment fund business, market players supporting investment funds should move quickly to adopt a recommended standard content, format and transmission methodology for the transmission of information as set forth in chapter 7 of the EFAMA report Standardisation of Fund Processing in Europe (March 2011).

Responsibility: Investment fund industry.

3.3. By when should the actions be taken?

All solutions should be implemented at the time of SRD level 2 / transposition into national law coming into force.

3.4. Priority of the Barrier: High.

4. Diverging view

European Issuers note the following areas of disagreement with the text above.

- It should not be argued that registration itself is a barrier, only different procedures how to execute registration may cause different operational necessities. Further harmonisation should focus on the processes and procedures for transmission of shareholder information; in particular, it is neither proven that there is a need for, nor accepted that there should be harmonisation of the content of registers.
- It is not proven and should thus be investigated that operational risk arises as a result of the divergence of registration arrangements; further work should be done to substantiate the suggestion.

[69] Where registration is mandatory for taxable shareholders, EPTF barrier 10 on registration should be considered in conjunction with EPTF barrier 5 on withholding taxes.

- The work already accomplished by T2S Taskforce on Shareholder Identification and the Working Group of the EPTG on shareholder identification and registration is sufficient to achieve the desirable harmonisation.

EPTF BARRIER 6: Complexity of post-trade reporting structure

New Barrier

Description of the issue: The lack of harmonisation across multiple post trade reporting requirements increases the cost of reporting and the complexity of data analysis.

Priority: High.

Summary of proposed action: A harmonised and simplified reporting 'package' should be developed, which can be referenced by all EU regulations and rules that require post trade transaction reporting.

Responsibility: European Commission.

1. Description of the Barrier

There are two principal issues that contribute to the high level of complexity associated with the existing EU post-trade reporting regime:

a) The lack of a harmonised structure to the various post-trade reporting requirements as defined in the relevant legislation/regulation and rules.

b) The mechanism by which the application of post-trade reporting regulations are maintained on a day-to-day basis.

Each of these is dealt with separately below.

a) Lack of a harmonised structure for the various post-trade reporting requirements as defined in the relevant legislation/regulation and rules

In the aftermath of the 2008 crisis, enhanced, or in some cases new, mandatory post-trade reporting regulations and rules have been implemented in the majority of key global jurisdictions requiring the reporting of individual transactions and/or positions of nominated participants.

Within the EU, the regulations include but are not limited to MiFIR, EMIR, SFTR and REMIT and local rules include but are not limited to ECB's MMSR and Bank of England's SMMDC. (A detailed list of reporting obligations is contained in Annex 3, Table P, at section 7.2.3.).

However, the requirements for transaction-level reporting identified under the various rules and regulatory instruments display differences in a number of key dimensions:

1. Data elements to be reported e.g. EMIR requires the reporting of up to 85 individual data elements, approximately 23 of which are also reportable under MiFID2/MiFIR.
2. The intermediary channels by which the data is to be reported e.g.
    a. EMIR – both parties report to an EMIR authorised Trade Repository (TR);
    b. MiFIR – both parties report either directly to the National Competent Authority (NCA) or to the NCA via an Approved Reporting Mechanism (ARM);
    c. SFTR – both sides have to report to an SFTR-authorised TR.
3. The mechanism of reporting, e.g. data is pushed to the regulator (MiFID/MiFIR) or is pulled by the regulator (EMIR, SFTR).

An additional complication has been the slow adoption of data standards for individual data elements and the reporting formats to be used by regulators and market participants. For example, the ISO LEI standard was published in 2012 but in the initial technical standards under the EMIR legislation, a counterparty identifier could be input as either LEI 'if available' or in the event of no LEI, a BIC or client code. Regulatory support for a standard will clearly encourage its acceptance and adoption as shown by the accelerated use of LEI following its mandatory inclusion in multiple regulations published since 2014 and in the recent revision of the technical standards under EMIR when the Global Legal Entity Identifier Foundation (GLEIF) process was introduced globally formalising LEI production and access.

b) The mechanism by which the application of post-trade reporting regulations are maintained on a day-to-day basis

There are occasions on which particular reporting regulations may lack the clarity or granularity necessary for accurate and co-ordinated implementation by all reporting entities and reporting infrastructures such as TRs.

If clarification of a regulation is required post-implementation, it is typically addressed via mechanisms such as the Q&A process. However, such processes lack a structured approach in two regards:

1. *Procedures*: There is no formal consultation period on the definition of such clarifications. In some but not all circumstances, market opinion is sought but there is no formal feedback mechanism that allows understanding of the decisions made.
2. *Timing*: Guidance is issued on an ad hoc basis (see chart below). Where clarifications of ambiguous regulatory obligations require market participants and/or infrastructures to make system changes, there should be tolerance to allow sufficient time to implement the changes. Consideration should be given to the bona fide efforts already made to comply with the regulations and the effort required to respond to the clarifications. It should also be noted that the ad hoc nature of the issuance of Q&As, for example, makes it problematic to plan the effective use of IT resources.

Figure 6: ESMA guidance on EMIR reporting (TR questions)

TR Questions	1	Classification of financial instruments	1 of EMIR	5 August 2013
	2	TR registration	56 of EMIR	20 March 2013
	3a	Reporting of collateral	9 of EMIR	23 June 2014
	3b	Reporting of valuations	9 of EMIR	23 June 2014
	4	Reporting of outstanding positions following the entry into force of EMIR (Backloading)	5 of the ITS on reporting to TR	3 April 2017
	5	Exchange traded derivatives	9 of EMIR	4 June 2013
	6	Reporting to TRs: Cleared trades	9 of EMIR	20 March 2013
	7	Reporting to TRs: Avoidance of duplication	9 of EMIR	4 June 2013
	8	Reporting to TRs: delegation	9 of EMIR	4 June 2013
	9	Reporting to TRs: Table of fields	9 of EMIR	20 December 2013
	10	Codes	9 of EMIR	24 October 2014
	11	Frequency of reports	9 of EMIR	5 August 2013
	12	Field "Maturity"	9 of EMIR	27 April 2015
	13	Intragroup transactions	9 of EMIR	5 August 2013
	14	Transactions within the same legal entity	9 of EMIR	5 August 2013
	15	Subsidiaries of non-EU entities	9 of EMIR	5 August 2013
	16	Collateral portfolio code	9 of EMIR	20 December 2013
	17	Position level reporting	9 of EMIR	20 December 2013
	18	Reporting to TRs: UTI construction	9 of EMIR	11 February 2014
	19	Reporting to TRs: UTI generation	9 of EMIR	24 October 2014
	20a	Reporting to TRs: Empty fields	9 of EMIR	27 April 2015
	20b	Reporting to TRs: Validations of EMIR reports	9 of EMIR	27 April 2015
	21	Reporting to TRs: UPI taxonomy	9 of EMIR	11 February 2014
	22	Reporting to TRs: Venues with AII codes	9 of EMIR	11 February 2014
	23	Reporting to TRs: AII code	9 of EMIR	11 February 2014
	24	Reporting to TRs: Buy/Sell indicator for swaps	9 of EMIR	24 October 2014
	25	Reporting to TRs: Decimal values in fields 15 and 16	9 of EMIR	11 February 2014
	26	Reporting to TRs: Complex Contracts	9 of EMIR	11 February 2014
	27	Reporting to TRs: 'Leg 1' and 'Leg 2' fields	9 of EMIR	11 February 2014
	28	Reporting to TRs: Underlying field	9 of EMIR	20 March 2014
	29	Reporting to TRs: Field 15 for NFC	9 of EMIR	20 March 2014
	30	Reporting to TRs: MIC codes	9 of EMIR	20 March 2014
	31	Reporting to TRs: Exchange rate	9 of EMIR	20 March 2014
	32	Reporting valuations of swaps on structured products	9 of EMIR	23 June 2014
	33	Collateralisation field	9 of EMIR	23 June 2014
	34	Contracts with no maturity date	9 of EMIR	23 June 2014
	35	Notional Amount field	9 of EMIR	23 June 2014
	36	OTC Derivatives Novations	9 of EMIR	23 June 2014
	37	Access to Data by the authorities	81 of EMIR	4 February 2016
	38	Trades terminated before reporting deadline	9 of EMIR	24 October 2014
	39	Block trades and allocations	9 of EMIR	24 October 2014
	40	LEI changes due to mergers and acquisitions. Update of identification code to LEI	9 of EMIR	1 October 2015
	41	Reporting of notional in position reports	9 of EMIR	4 February 2016
	42	Population of the field Clearing Obligation	9 of EMIR	4 April 2016
	43	Trades cleared by clearing house which is not a CCP	9 of EMIR	26 July 2016
	44	Transition to the new EMIR TS on reporting	9 of EMIR	2 February 2017

Source: ESMA[70].

[70] Questions and Answers, Implementation of the Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR), dated 3 April 2017 https://www.esma.europa.eu/sites/default/files/library/esma70-1861941480-52_qa_on_emir_implementation.pdf

2. Consequences of the Barrier

a. Increases the cost of reporting:

- For Reporting entities
- For Reporting infrastructures

For reporting entities: Entities that have multiple reporting obligations may have to build multiple reporting channels. As an example, there is no reuse of data between the MiFID and EMIR intermediary channels or reporting frameworks as defined earlier in Section 1a. Whilst the use of a TR is mandatory for both EMIR and SFTR, TRs must be authorised separately. Thus, if a reporting entity's EMIR TR is not SFTR registered, then either a link to a second TR will be required or the portfolio will need to be transferred to an appropriately dual-registered TR. All of these complexities ultimately increase the cost to the participant. It should be noted, however, that a simplified procedure is foreseen in SFTR to allow for the registration of TRs already registered under EMIR. Technical standards currently under preparation will also introduce such a simplified registration into EMIR for SFTR-registered TRs.

Additionally, the possibility of needing to rework reporting solutions in the light of post-implementation clarifications adds to the cost with the ad hoc nature of the clarifications, inhibiting planning for optimal use of resources. These increased costs apply both to reporting entities and authorised intermediaries such as TRs but are ultimately borne by the reporting entities.

The consequences of increased cost of reporting are effectively an increase in cost of investing in European markets. Whilst other jurisdictions competing for this investment also have reporting obligations to satisfy, the complexity, lack of harmonisation between reporting regulations in the EU, and the resulting sub-optimal use of IT resources means that the incremental post trade costs for reporting in the EU tend to be higher than in a jurisdiction with harmonised or single reporting obligations. This risks being a negative factor in relation to any investment decision.

For reporting infrastructures: Specifically in the case of EMIR, the initial absence of mandated data standards and formats to make data available to the authorities has led to a situation where it is difficult to aggregate data made available by the individual TRs. This directly led to the creation of the TRACE regulator portal project to provide the required harmonisation of data and formats to be made available to authorities. The costs to the industry of implementing this project (estimated by some TRs to be as much as EUR 1m per TR plus a percentage of the disclosed ESMA TRACE budget of EUR 700 000 given that EU regulators' funding is derived at least in part from industry funding through fees) have been significant. Additionally, where different reporting regulations/rules require reporting of the same data fields, the duplicate data will potentially increase the cost of data storage. The recent adoption of revised EMIR technical standards should help to alleviate this problem.

b. Increases the complexity of data analysis

The twin complexities of the absence of harmonised data formats together with the lack of standardisation of data elements inevitably has a negative impact on the ability of any entity to analyse the data without prior 'cleansing' and/or normalisation. Typically, but not exclusively, this will negatively impact the regulatory authorities in carrying out their role in an effective and efficient manner. This complexity manifests itself in two ways:

Data quality: In the absence of mandated standards, as defined earlier for counterparty identifiers, participants and intermediaries invariably settle on the standards best suited for their own operation. This means that in the absence of a mandated standard, it is highly unlikely that all participants will implement the same solution, leading to a degradation in the level of harmonisation and consistency of the data.

Data aggregation: If the reports received by the regulators or other users (e.g. usage of publicly reported data) vary in terms of the formats used by the reporting entity, then the aggregation of data (as required for systemic risk analysis, for example) becomes subject to a data normalisation process. In the case of EMIR, this is achieved, at a cost, via the TRACE portal. The recently adopted revised technical standards should, however, go some way towards alleviating this problem.

3. Proposed way forward

3.1. Possible solutions

a) *Harmonised structure*: There are a number of ways in which this barrier can be addressed. Taking each of the issues in the sequence they have been highlighted:

1. *Data elements to be reported*: Where duplicate data is being reported to the same point by the same reporting entity, e.g. the 23 duplicate fields between MiFIR and EMIR, the reporting obligations should ensure that such duplication is eliminated where possible.
2. *Intermediary channels for reporting*: At present, the variety of reporting channels possible under the various EU regulations means that a reporting entity with obligations across multiple Member States may, in a most complex case, need discrete connections to all relevant EU NCAs for MiFID direct NCA reporting, an EMIR TR and an SFTR TR, as well as separate linkages to the ECB, BoE, etc. If the reporting regulations can offer the option of consolidating multiple channels to use a single type of authorised intermediary, for example by reusing existing reporting infrastructure, more cost effective reporting solutions could be built, should reporting entities determine this to be the most appropriate solution and subject to a case-by-case analysis of its overall efficiency for each type of reporting.
3. *Mechanism for reporting*: Standardisation of the push vs pull reporting requirement should be achieved, i.e. all data should either be pushed or pulled. It is also important to note that whilst timing is currently not an issue with all regulatory reporting being mandated no later than T+1, this particular standardisation should be maintained in a review of all reporting mechanisms (for example, it should be noted that ECB MMSR reporting is due on T+0). Similarly, harmonised reporting exemption criteria should be maintained.
4. *Data standards*: Where there is broad industry agreement on the use of a standard, it should be mandated and promoted as part of a regulation/rule. For example, guidelines exist for UTI[71] and regulatory support for one of these will give impetus to early adoption. Note that a key part of the implementation of any standard includes the process by which the data is created, e.g. an issue surrounding the implementation of UTI is its availability in time to be used in the reporting process and this should also be addressed in any regulatory support.

[71] e.g. for ISDA guidelines, see multiple references at http://www2.isda.org/functional-areas/technology-infrastructure/data-and-reporting/identifiers/uti-usi/
for BIS guidance, see https://www.bis.org/cpmi/publ/d131.pdf

5. *Reporting formats*: A set of reporting templates, utilising internationally agreed standards as referenced above, should be agreed and implemented by all reporting entities (direct or intermediary).
6. *Common communication protocol*: usage of standard ISO 20022 protocol should be recommended (please also refer to EPTF Barrier 2).

b) *Maintenance mechanisms:* The continued relevance of the available legislative tools should be regularly assessed and if its continued use is appropriate, the issue of regulations lacking clarity and/or granularity should be addressed with a view to ensuring maximum clarity and lack of ambiguity. This will require continued consultation with industry bodies, but ultimately, it will require regulation to be drafted in a form which is clear and unambiguous and, as far as possible, recommending or requiring the use of specific standards.

To address the ongoing maintenance issue, the regulatory process followed by ESMA to elaborate and issue Q&As[72] in the areas which are within its remit should be revised to add the following steps:

1. Publication by ESMA of the proposed clarifications with explanation as to why proposed alternative solutions were not recommended.
2. Where technical implementation is required, definition of a formal post-publication implementation period which allows for industry compliance to be achieved.
3. Identification of a regular maintenance cycle to move away from the current ad hoc process, again referencing specifically those clarifications requiring technical implementation. This would allow implementation of industry best practice around IT release planning and resource usage. The maintenance should be done either quarterly or half yearly.

3.2. Who should act to address the Barrier?

a) In consultation with the industry, with other EU regulatory and/or supervisory authorities such as ESMA, ACER, the ECB and the BoE, and with reference to global recommendations from authorities such as the FSB, CPMI, and IOSCO, the European Commission should work to create a harmonised and simplified reporting 'package' which can be referenced by all EU regulations and rules that require post-trade transaction reporting.

This package should, at a minimum, address the standardisation of data elements to be reported as already defined in various regulations and rules, standardise the use of reporting intermediaries, standardise the mechanisms for reporting, and identify relevant data standards as mentioned above.

b) The European Commission should revise the maintenance process for reporting required by regulation:

- Ensure that the initial (and, where required, supporting) legislation is unambiguous.
- Redesign the existing maintenance process to address the deficiencies identified above.

3.3. By when that action should be taken?

[72] See https://www.esma.europa.eu/questions-and-answers

By the end of 2017 the Commission should launch an industry consultation to identify the key components of a common standardised reporting 'package', as defined in section 3.1 a) *Harmonised structure*, for inclusion in all EU regulatory mandates that require post trade reporting. Following such consultation the Commission and the ESAs should jointly work at addressing the issues raised, by means of delegated acts, technical standards, guidelines and Q&As according to the legislative imperative.

3.4. Priority of the Barrier: High.

EPTF BARRIER 7: Unresolved issues regarding reference data and standardised identifiers

Former Giovannini Barriers 8 & 9, redefined and combined

Description of the issue: Financial reference data, e.g. International Securities Identification Number (ISIN), Legal Entity Identification (LEI), should be available to all market participants for free or at cost, free of licence fees, copyright or similar restrictions.

A legal dispute with US service providers that treat the provision of reference data as a commercial business is unresolved to date.

Priority: Medium.

Summary of proposed action: In the medium term an international agreement should be achieved whereas all reference data identifiers that are necessary to ensure efficiency should be available to users for free or at cost, for internal and external use, and not restricted by commercial interest such as licence contracts or consumption reporting requirements.

Responsibility: European Commission.

1. Description of the Barrier

A financial instrument can be traded electronically only if it and its counterparties are properly "identified" by their own unique standardised identifiers. Global regulatory efforts support the use of essentially four identifiers: International Securities Identification Number, ISIN (instruments), Legal Entity Identifier, LEI (counterparties), Unique Product Identifier, UPI (derivative instrument classification), and Unique Transaction Identifier, UTI (transactions). The possibility to use these identifiers and associated reference data without licence agreements and/or the payment of usage fees removes barriers to the uptake of agreed identifiers, fosters their acceptance in the market place, and enables automation (of data reporting and processing) on the basis of standardisation.

Globally tradable securities are identified by the **ISIN**, which is based on the ISO 6166 standard and issued and distributed within a short time frame by all EU national numbering agencies. The timely issuance and distribution of ISINs for cash securities was the first Giovannini Barrier (GB 8) to be (partially) dismantled.

However, the CESAME 2 report mentioned that the issue of licensing fees for the use of US ISINs remains unresolved[73]. The EC issued a Commitments Decision on 15 November 2011[74]. The decision allows European data customers to exercise their unconditional right to early termination of their existing Standard & Poor's (S&P) licensing agreements and to receive US ISIN records via a market data vendor free of charge under a new US ISIN End-user Agreement. S&P announced in August 2014 voluntary modifications for the US ISIN Service, including a direct contract between

[73] For details , please see: Solving the industry Giovannini Barriers to post-trading within the EU, CSAME Report, 28 November 2008, at p.48.
[74] http://ec.europa.eu/competition/antitrust/cases/dec_docs/39592/39592_2152_5.pdf

the user and the numbering agency[75]. The EC Commitments Decision expires after 5 years, i.e. after 17 April 2017. S&P declared its readiness to extend the voluntary measures beyond this date[76].

When it comes to the use of agreed identifiers for the processing (including collateral management) and (regulatory) reporting of other financial instruments and positions, such as credit claims or derivative instruments, the first CESAME report of 28 November 2008[77] acknowledged this need but cautioned that "any standard identifier for such other instruments should be carefully developed to avoid any issues on intellectual property rights, such as copyright". This is a real danger[78]. The EU has adopted ISIN as the instrument identifier of liquid OTC derivatives traded on platforms in the context of MiFID and transaction reporting to ESMA under EMIR. However, the necessary OTC-ISIN identifiers and associated reference data are not produced by S&P but by the Association of National Numbering Agencies[79] from 2018 onwards under a cost recovery principle and their use is expected to be licence-fee free[80].

The **identification of legal entities** acting as issuers or counterparties to financial instruments and contracts are under risk of being subject to licence and fee issues too. However, following a G20 recommendation, legal entity identification has been internationally standardised by the **Legal Entity Identifier (LEI)** under ISO 17442**.** EU legislation requires the use of the LEI mainly for reporting purposes in almost all areas of financial services. LEIs are issued and distributed by the Global Legal Entity Identifier Foundation and its associated network of local operating units under strict governance principles set by the Financial Stability Board (FSB), including the licence-free distribution and use of the identifier and associated reference data.

2. Consequences of the Barrier

Carrying out post-trade steps in real time (in contrast to simple file transfers) is very sensitive to risk-management, clearing and settlement issues as it affects straight through processing. The blocking of ISIN could lead to interruptions in electronic securities trading, and is therefore a potentially very significant interference in financial markets, which can have vast economic effects and shake the systemic stability of financial markets worldwide. According to recent research 50% of buyside firms said that problems with securities identification lead up to 10% of trade failures[81].

3. Proposed way forward

3.1. Proposed solution

The concept of licence-free distribution of the identifiers and associated reference data should be extended to the identification of all financial instruments and counterparties. Reference data as well

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[75] http://www.cusip.com/pdf/CUSIPImprovesAccessibilityofUSISINBasicServiceAugust2014_FINAL.pdf
[76] http://pages.marketintelligence.spglobal.com/rs/565-BDO-100/images/CGS-Other-Voluntarily%20Extends%20Offering-170317.pdf
[77] Cf. p.49.
[78] For example, the so-called MarkIT Redcode is used widely within in the global derivative industry to identify credit default swaps. However, it is linked to CUSIP, an identifier that is not licence free
[79] Following a joint ISO/ISDA study group ("ISO SG2") for the definition of allocation rules for such "OTC-ISINs" the Association of National Numbering Agencies (ANNA) has set up a Derivatives Service Bureau (DSB) to issue and distribute OTC derivative ISINs.
[80] For details, please see: http://www.anna-web.org/home/derivatives-service-bureau/
[81] http://www.thetradenews.com/Buy-side/Buy-side-blame-securities-identification-for-trade-failures/